# 1CH / 4CH

# DCS HQR1 DVR

## User's Manual

Version 1.1.1

2007-11-23

## CAUTION!!!

Read this User Manual carefully. There are no user serviceable parts inside. Removing the end plate screws will void your warranty. If your HQR1 DVR requires servicing, please contact your authorized distributor or factory.

**Do not use the HQR1 DVR to power devices other than a single camera!**

This document is a work in progress and reflects only the HQR1 DVR device.

# Contents

**Introduction** ..... 1
Introduction of DCS HQR1 DVR ..... 1
MPEG-2 ..... 1
MPEG-4 ..... 1
Features ..... 2
Product and Accessories ..... 2
**Installation** ..... 3
Preparation ..... 3
DCS HQR1 DVR Configuration ..... 3
PC configuration for replay ..... 3
Installation Guide ..... 3
Before Installation ..... 3
Installation ..... 3
Startup ..... 4
Safety and Warning ..... 4
Connect Video/Audio signal to DCS HQR1 DVR ..... 5
1 Channel DCS HQR1 DVR ..... 5
4 Channel DCS HQR1 DVR ..... 5
Video and Audio Interface ..... 5
Button/Bullet Camera Interface ..... 6
Eject CF Card ..... 6
**Operation of DCS HQR1 DVR** ..... 7
Quick Start ..... 7
Push Button ..... 7
RECORD ..... 7
STOP ..... 8
Infrared Remote Control ..... 8
Infrared Remote Control for 4 Channel DCS HQR1 DVR ..... 8
LANC Remote Control ..... 9
Wireless Remote Control ..... 10
Video Quality ..... 10
Video File Name ..... 11
**DCS HQR1 DVR Status** ..... 12
**Replay Video** ..... 13
Software ..... 13
Card Reader ..... 13
PCMCIA Interface ..... 13
**Configuration** ..... 14
Software Installation ..... 14
Configuration of DCS HQR1 DVR ..... 17
Video System ..... 21

Audio Source .....21
Bit Rate .....21
Video Format .....22
Time Stamp .....22
Record on Power On .....23
Beep/Vibration .....23
Record Method : Normal & Cycle Record .....23
Power-Off Timer .....25
Picture Adjust .....25
LCD Display .....26
Configure 4-Channel DCS HQR1 DVR .....26
Video Input .....26
Picture-In-Picture (PIP) .....29
The Border of Frame .....30
Configuration Menu Output .....31
**MPEG-2 Converter** .....32
**Lap Timer** .....35
Configuration of Lap Timer .....35
Connection .....35
Mask Time .....35
Recording of Lap Time .....35
**Configure DCS HQR1 DVR using LCD Configuration Menu** .....37
LCD Configuration Menu .....37
Enter/Quit LCD Configuration Menu .....37
Configure DCS HQR1 DVR in LCD Configuration Menu .....38
LCD Configuration Menu Details .....38
Menu .....38
Menu Item & Parameter .....39
LCD Configuration Menu Structure .....48
**Firmware Upgrade** .....50
**FAQ** .....52
**Appendix** .....53
IRIS Interface on Board .....53
IRIS Cable .....53
**Revision** .....54

# Introduction

## Introduction of HQR1 DVR

The HQR1 DVR is a dedicated battery powered Digital Video Recorder designed for portable, mobile Video and Audio Recording applications. The HQR1 DVR hardware system uses an ARM9 processor and advanced hardware MPEG-4/2 video encoder, PCMCIA interface, charging circuit, vibration/alarm circuit, video capture, IRIS camera interface and MCU designed on board. The MCU is used to process remote control, push buttons, power management, LANC and alarm. PCMCIA can support CF with FAT32 files system. Recorded video on CF card can be replayed on a PC instantly. The PCMCIA interface can also be used to connect other peripheral devices for future extension.

The OS of the HQR1 DVR is Linux. It handles multiple tasks in real time, for example; driver, recording, AV synchronization, file management and external events.

The common Compact Flash card is used as a storage medium. The CF card is a solid storage media with the best anti-shock capability available today. It is also low powered and provides fast speed with multiple diversity options. It is very good choice for mobile DVR applications.

HQR1 DVR offers two encoding formats, MPEG-2 for DVD and MPEG4 for archive and streaming video.

## MPEG-2

MPEG-2 is a standard for generic coding of video and audio. It is widely used in consumer electronics, such as DVD video disc, DVD player, DVB television broadcasting etc. The HQR1 DVR can record in MPEG-2 format which can be edited by any video editing software or replayed on a DVD player.

## MPEG-4

MPEG-4 is the awesome new generation video standard with better video quality and higher compression rate. For exceptional disc space saving, MPEG-4 is capable of creating highly compressed video archives on a regular CD-ROM with almost the same quality of DVD. One popular MPEG-4 format is DivX. It is the only technology that enables streaming of video on the internet possible. Now, many DVD players can play DivX files directly.

## Features

- ✧ Battery powered for portable, mobile DVR applications
- ✧ Intelligent and uninterrupted battery and AC power swap in real time
- ✧ Capture Video & Audio live from any composite video output
- ✧ Supports MPEG-4/2 video format.
- ✧ Video Bit Rate : 1M~8Mbps
- ✧ Frame Rate : PAL(25fps), NTSC(30fps)
- ✧ Support PAL/NTSC/SECAM standard
- ✧ Resolution : Full-D1, CIF/SIF (1M Bitrates)
- ✧ Supports Single File & Full Disk Cycle Record Mode
- ✧ Supports ADPCM Audio Format
- ✧ Audio Sampling : 8/16/32/48KHz
- ✧ On-board IR remote controller
- ✧ Non-directional wireless control optional
- ✧ LANC remote controller support
- ✧ AC adapter or Internal Lion Rechargeable Battery
- ✧ On-board battery charging circuit
- ✧ Offers power for camera & MIC
- ✧ Changeable CF Flash Card to save video
- ✧ Multi-Color LED for status
- ✧ Micro Vibration Motor or Beep status warning
- ✧ Optional OSD and RTC
- ✧ Optional Lap Timer
- ✧ Palm sized
- ✧ Only 160g weight with battery and CF card
- ✧ Video/Audio input
- ✧ Linux OS and upgradeable firmware
- ✧ Support Windows 98/ME/NT/2000/XP/Vista for Playback

## Product and Accessories

| | |
|---|---|
| DCS HQR1 DVR | 1pcs |
| AC Power Adapter | 1pcs |
| Recharge Li-ion Battery (Internal) | 1pcs |
| Remote Control | 1pcs |
| PCMCIA-CF Adapter (Sandisk) | 1pcs |
| IRIS-RCA Cable (Optional) | 1pcs |
| External Beacon Receiver (Only for Lap Timer Edition) | 1pcs |

**** Power adapter and battery are for DCS HQR1 DVR only and don't use any other power adapter and battery instead in case of damage.***

# Installation

## Preparation

Please read user's manual careful before installation. Check the minimum requirements of system and recommended system configuration.

### DCS HQR1 DVR Configuration

- ✓ PCMCIA-CF adapter
- ✓ SanDisk Ultra II CF card, 512MB minimum

### PC configuration for replay

- ✓ CPU : Pentium III 1G and above
- ✓ RAM : 512MB and above
- ✓ DVD Recorder : DVD±R/RW
- ✓ OS : Windows 2000 (SP4), Windows XP (SP2), Vista
- ✓ HDD : 7200RPM, 10G free space
- ✓ Display : 1024x768 and above, 24/32 bit color depth
- ✓ Graphic Adapter : Support DirectX 9.0c
- ✓ USB : One free USB 2.0 host interface
- ✓ Card Reader : one high speed USB 2.0/1394 card reader
- ✓ PCMCIA : Optional PCMCIA interface

## Installation Guide

### Before Installation

1) Check all accessories and CF card
2) Format CF card with FAT32 file system if it is new
3) Check power adapter and battery
4) Check whether PC and peripherals match the recommended configuration

### Installation

1) Make sure the power switch is in off position
2) Insert CF card into PCMCIA adapter
3) Push PCMCIA adapter with CF card into the PCMCIA slot
4) Connect camera properly

## Startup

1) Connect AC power adapter
2) HQR1 DVR will start a self-diagnostics when power on
3) The LED is red in self-diagnostics and will turn yellow on start-up. The LED turns to green once start-up is successful.
   It takes about 12 seconds to start-up
4) The LCD displays **Init...** during startup, after startup is successfull, the LCD will display **DCS HQR1**
5) You will hear a beep once the HQR1 DVR starts-up
   The Vibration Motor will vibrate one time once when DCS HQR1 DVR starts-up successfully ***
6) The battery will be charged automatically when power on and LED turns to red

The battery should be fully charged before first use. The charging LED goes out once charge finished.

Please charge the internal Li-Ion battery over night & until the charging LED goes out. Li-ion rechargeable battery is expendable.

The battery should be replaced after 500 charge cycles. The used battery should be disposed of properly.

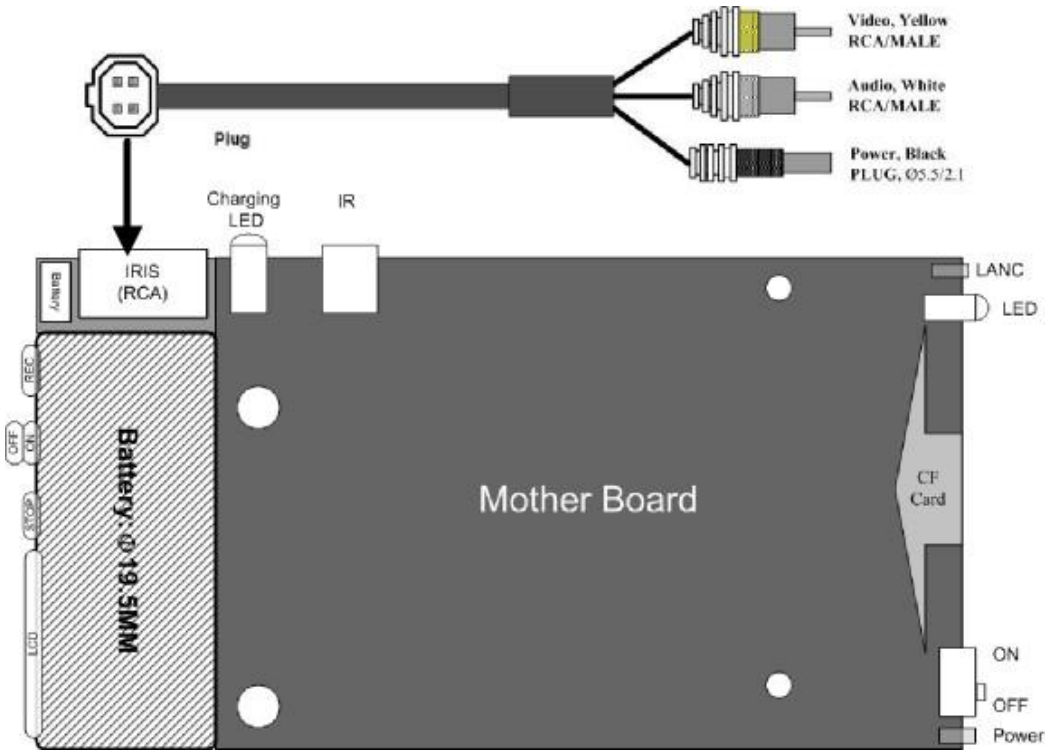
**** The Beep & Vibration Motor is only one in DCS HQR1 DVR, The Beep is standard part, Vibration Motor is optional only for special model.***

## Safety and Warning

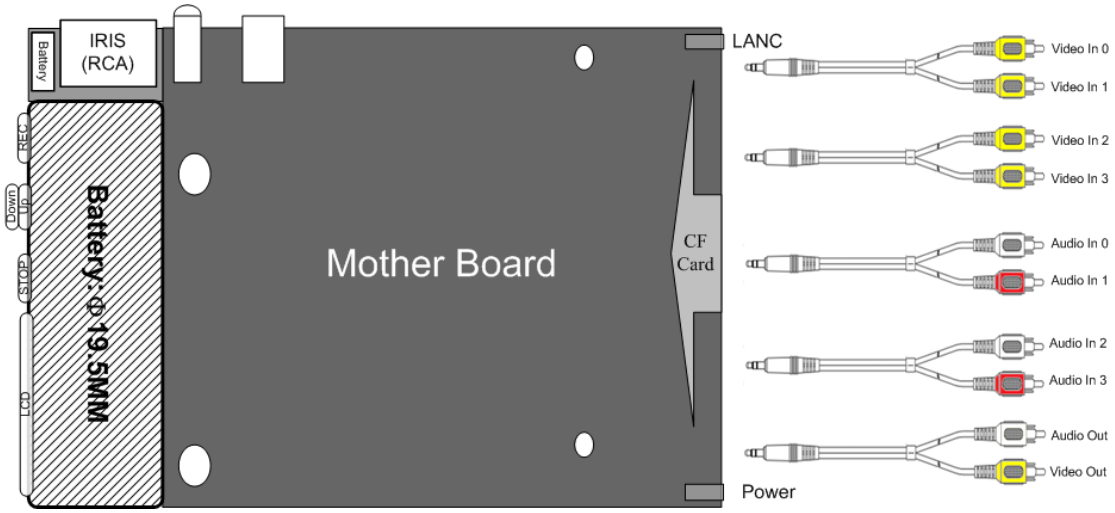
**** Never connect IRIS-Power output to any power adapter. It may damage the interface and board.***
**** There are no user serviceable parts, please do not open the unit. Doing so can damage the unit and will void your warranty.***
**** Restrict input voltage to a range from 9V to 15DC, 12V DC is recommended. Never apply DC voltage beyond this range or AC voltage to the DCS HQR1 DVR.***
**** Only use AC power adapter supplied with the unit. Do not use third party AC power adapters, it may cause unexpected problems or damage.***
**** Restrict powering devices drawing more than 200mA current.***
**** Never insert or remove CF cards the while the power is on.***

# Connect Video/Audio signal to DCS HQR1 DVR

## 1 Channel DCS HQR1 DVR




## 4 Channel DCS HQR-C4 DVR




# Video and Audio Interface

If the HQR1 DVR is configured as RCA audio/video interface, the colours correspond to:

**Yellow-** Video

**White-** Audio
**Black-** Power output

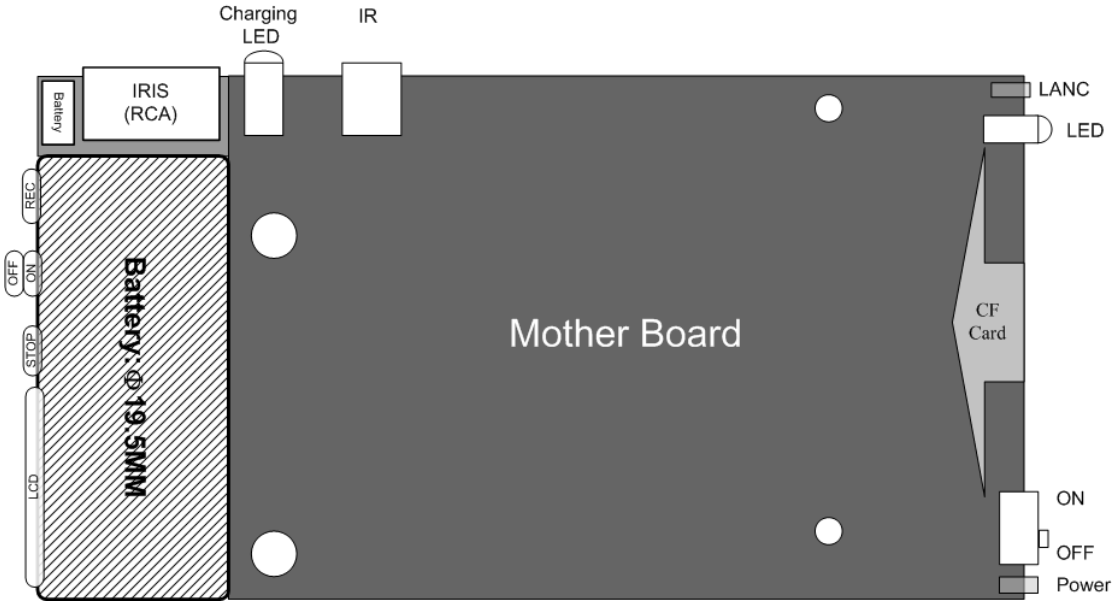
## Button/Bullet Camera Interface

Some button cameras can connect to DCS HQR1 DVR directly without the jump cable if the interface of button camera conforms to the IRIS interface in Appendix.

## Eject CF Card

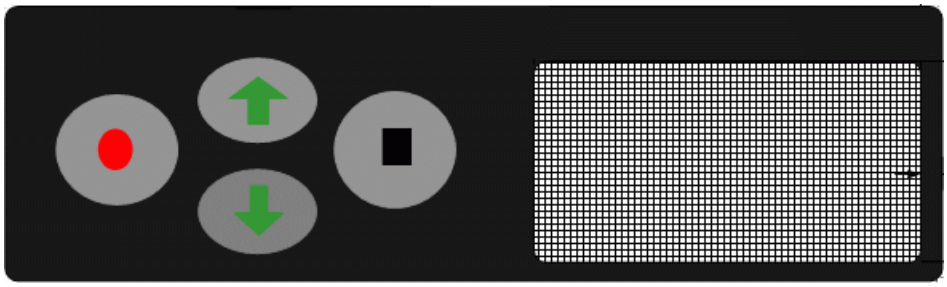
1) Wait until the LED turns green
2) Disconnect power adapter & Switch off power from the internal battery
3) Eject CF card

# Operation of DCS HQR1 DVR




## Quick Start

No configuration is required to start recording with the HQR1 DVR.
The operation of the HQR1 DVR is quite simple. There are two push buttons, REC and STOP. An LED is used to indicate the status of operation.



## Push Button

### RECORD

Press the (REC) button for at least one second to start recording.

The LED will flash red and you will hear three beeps.

The flash frequency is about 3 times per second. Slower flash frequency means no video signal is connected.

## STOP

Press the (STOP) button for at least three seconds to stop recording. The LED turns to green & you will hear 2 beeps.

It will take a short while to save buffered data after stopped. The power can not be turn off until the LED changes to green. Early eject the CF card will cause destroy of video file integrity. Disconnect AC power adapter and switch off battery before eject CF card.

## Infrared Remote Control

Infrared remote control is optional for the HQR1 DVR.
Three buttons are defined:

Start recording

Stop recording

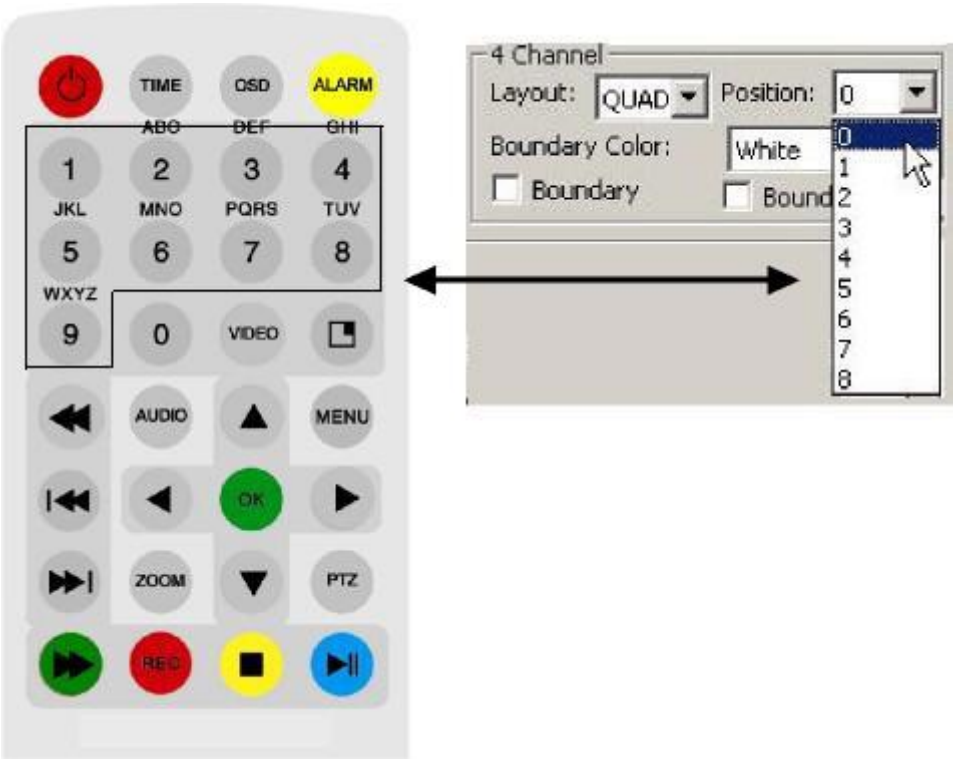
Keep pressing to make HQR1 DVR in Sleep/Wakeup mode

## Infrared Remote Control for 4 Channel HQR-C4 DVR

The numeric key on the IR remote controller controls 9 positions of Picture-In-Picture, you can configure it & select any one array method as your default array using the HQR-C4 DVR Configuration Utility.

| Numeric Key on IR remote Controller | Item in Position Menu |
|---|---|
| 1 | 0 |
| 2 | 1 |
| 3 | 2 |
| 4 | 3 |
| 5 | 4 |
| 6 | 5 |
| 7 | 6 |
| 8 | 7 |
| 9 | 8 |

**Table showing numeric keys on IR remote controller & Position menu**




**NOTE :**

- **Numeric keys on the IR remote controller are used for 4 channel DCS HQR-C4 only.**
-

## LANC Remote Control

The HQR1 DVR supports multi-version LANC Remote Control, please power off HQR1 DVR & unplug AC Power adapter, then plug LANC remote control into LANC jack with the logo.

**NOTE : SkyTools CamEYE SPORT LANC Remote Control V1.4 & V1.6 are supported by the HQR1 DVR.**

Power on the HQR1 DVR, after booting is finished, you can control the HQR1 DVR start/stop recording using LANC remote control. And you can power off HQR1 DVR & power on it again.

After the HQR1 DVR starts successfully, the status LED on LANC remote control will display green. Press the button on the center of LANC to start recording, and the status LED on LANC will flash red & the unit beeps 3 times once started successfully.

Press button again, the HQR1 DVR will stop recording, the status LED on LANC turns to green.

Hold the button on LANC for approx 3 seconds untill the status LED on LANC flashes red. This will power down the HQR1 DVR, when the HQR1 DVR powers down, the status LED on LANC turns to yellow.

In power off status, press button on LANC to power up the HQR1 DVR again.

**NOTE : DO NOT PLUG OR UNPLUG LANC REMOTE CONTROL WHEN HQR1 DVR POWER ON & AC POWER ADAPTER IS CONNECTED !! YOU MUST POWER DOWN THE HQR1 DVR, UNPLUG AC POWER ADAPTER, THEN PLUG/UNPLUG LANC REMOTE CONTROL.**

## Wireless Remote Control

Optional for specific applications with the additional module of wireless remote control.

## Video Quality

**1M**: Record video using 1Mbits/s, record video based on CIF/SIF resolution.
**EP**: Record video using 2Mbits/s.
**LP**: Record video using 4Mbits/s.
**SP**: Record video using 6Mbits/s.
**HQ**: Record video using 8Mbits/s.

The recorded file size is dependent on the complexity of movement objects. The following is the estimated recording time:

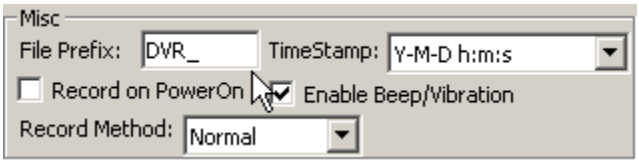
**1M** : 100 min/GB
**EP** : 60 min/GB
**LP** : 40 min/GB
**SP** : 20 min/GB
**HQ** : 15 min/GB

Larger storage cards can yields longer recording time and better picture quality. For example, current capaciies of CF card on the market are from 512MB to 32GB. 4GB CF cards can record 4 hours in EP mode.

EP mode is recommended for slowers moving or still background scene with some moving objects in front. SP mode is recommended for fast moving background scenes.

## Video File Name

Record file name starts with DVR_ by default. The file name will be DVR_xxx.avi. XXX is incremental from 000 to 999. The prefix DVR_ can be modified in DCS HQR1 DVR Gen configuration software.



# DCS HQR1 DVR Status

- Power up: LED is yellow for less than 1 second.
- Self diagnostics: LED is red for about 10 seconds.
- Standby: LED is green. Means it is ready to record.
- Recording: red LED will flash about 6 times/second.
- CF full: yellow LED will flash.
- Battery Low: Recording is stopped automatically. LED flashes 4 times and enters sleep mode
- Sleep: LED is yellow. Only the REC (POWER) button can wake it up.
- No Video: LED will slowly flash red whilst trying to record.

# Replay Video

## Software

It is simple to replay video recorded on CF card. Media player can play the video files directly within Windows.

DivX Codec or player has to be installed if no related components are installed on a PC. Installation of WinPVR can also install DivX codec automatically. We recommend the use of VLC media player which can be downloaded for free on the internet.

## Card Reader

High speed card readers are recommended for read and replay of recorded video. If the card reader is fast, your PC can replay video instantly from the CF card without coping video file to PC hard disk first.

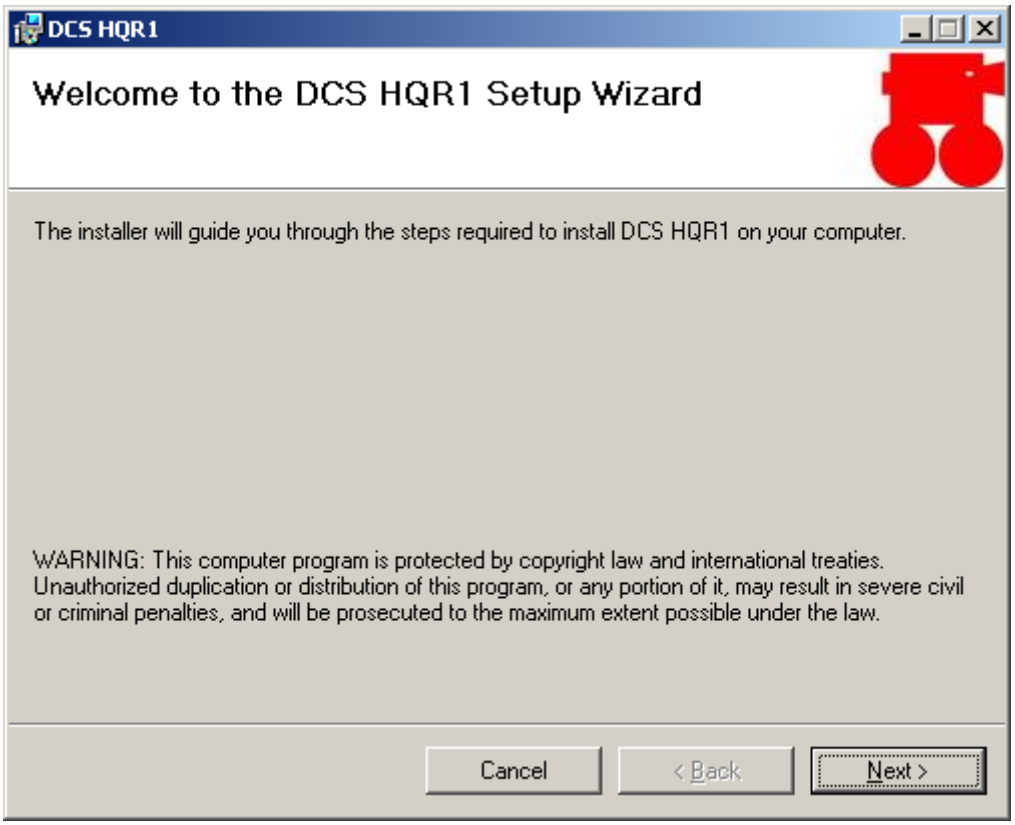
## PCMCIA Interface

Most laptops have a PCMCIA interface. CF card with a PCMCIA adapter can be read directly by Laptops with this interface. Copy the video files to PC and then replay the video files because PCMCIA is relatively slower.

# Configuration

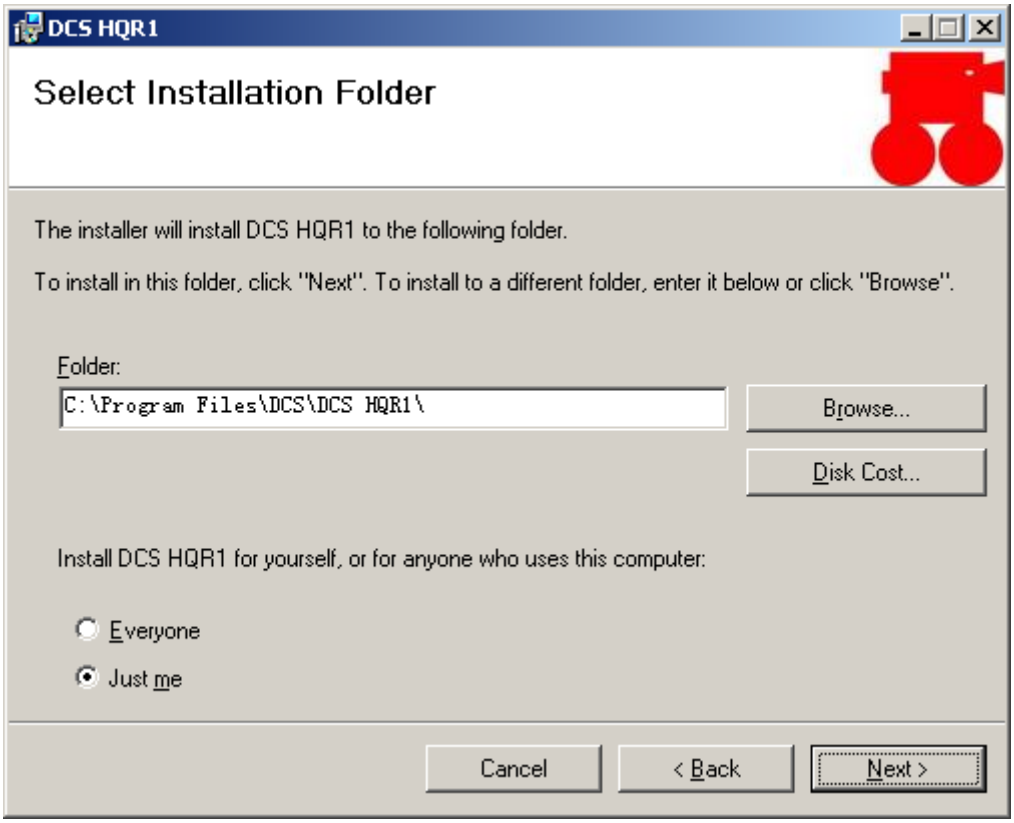
## Software Installation

Install software package DCS HQR1 DVR before you use the DVR for the first time. Run **setup.exe** to install DCS HQR1 DVR.

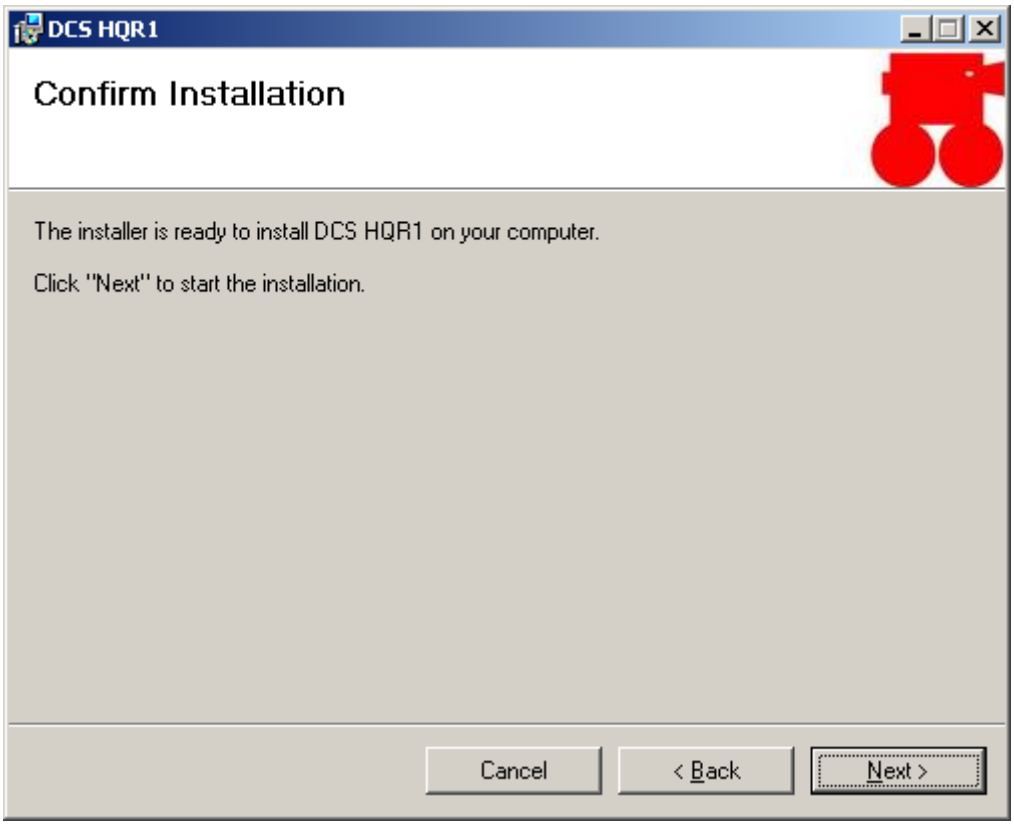

DCS HQR1
Welcome to the DCS HQR1 Setup Wizard
The installer will guide you through the steps required to install DCS HQR1 on your computer.
WARNING: This computer program is protected by copyright law and international treaties. Unauthorized duplication or distribution of this program, or any portion of it, may result in severe civil or criminal penalties, and will be prosecuted to the maximum extent possible under the law.
Cancel
< Back
Next >

Click **Next >** button to continue installation setup.

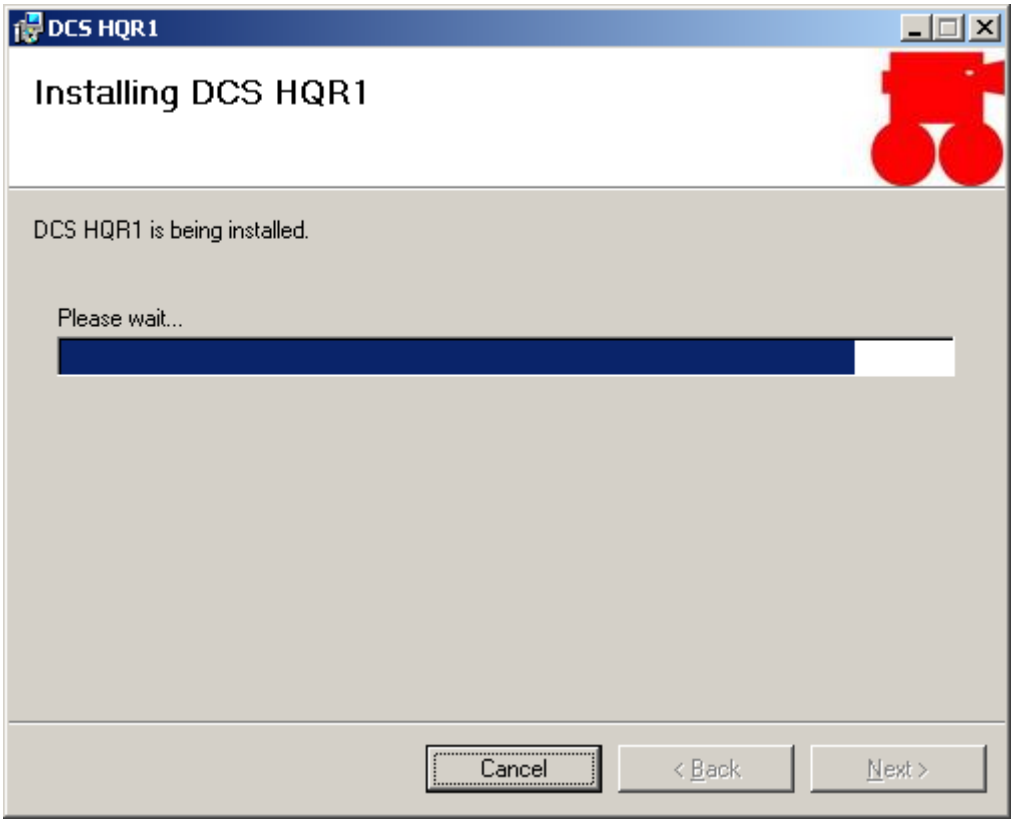
During the installation process, you can select the target folder or use the default folder when software prompts you.


DCS HQR1
Select Installation Folder
The installer will install DCS HQR1 to the following folder.
To install in this folder, click "Next". To install to a different folder, enter it below or click "Browse".
Folder:
C:\Program Files\DCS\DCS HQR1\
Browse...
Disk Cost...
Install DCS HQR1 for yourself, or for anyone who uses this computer:
Everyone
Just me
Cancel
< Back
Next >

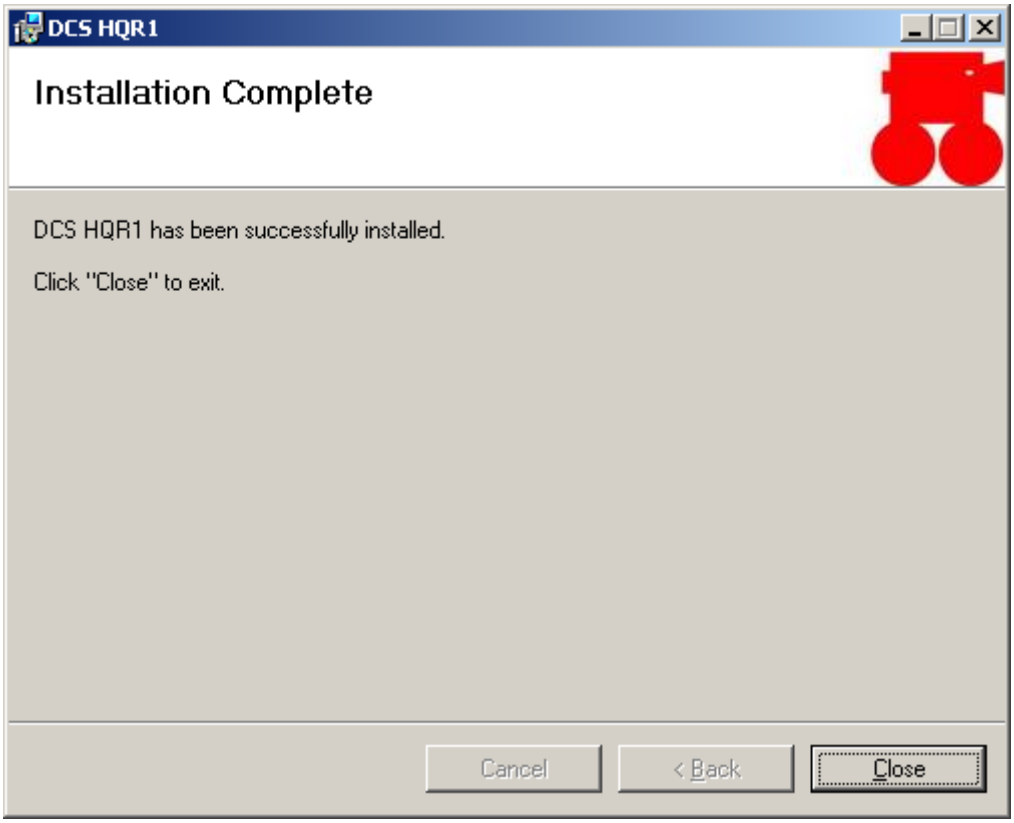
After you select the target folder, Click **Next >** button to confirm it.


DCS HQR1
Confirm Installation
The installer is ready to install DCS HQR1 on your computer.
Click "Next" to start the installation.
Cancel
< Back
Next >

Click **Next >** button to start DCS HQR1 DVR software install.




Click **Close** button to finish it when installer prompt you the installation is successfully.



After you install the HQR1 DVR software, the software shortcut **DCS HQR1 DVR** will be generated on the desktop and DCS HQR1 DVR program folder.

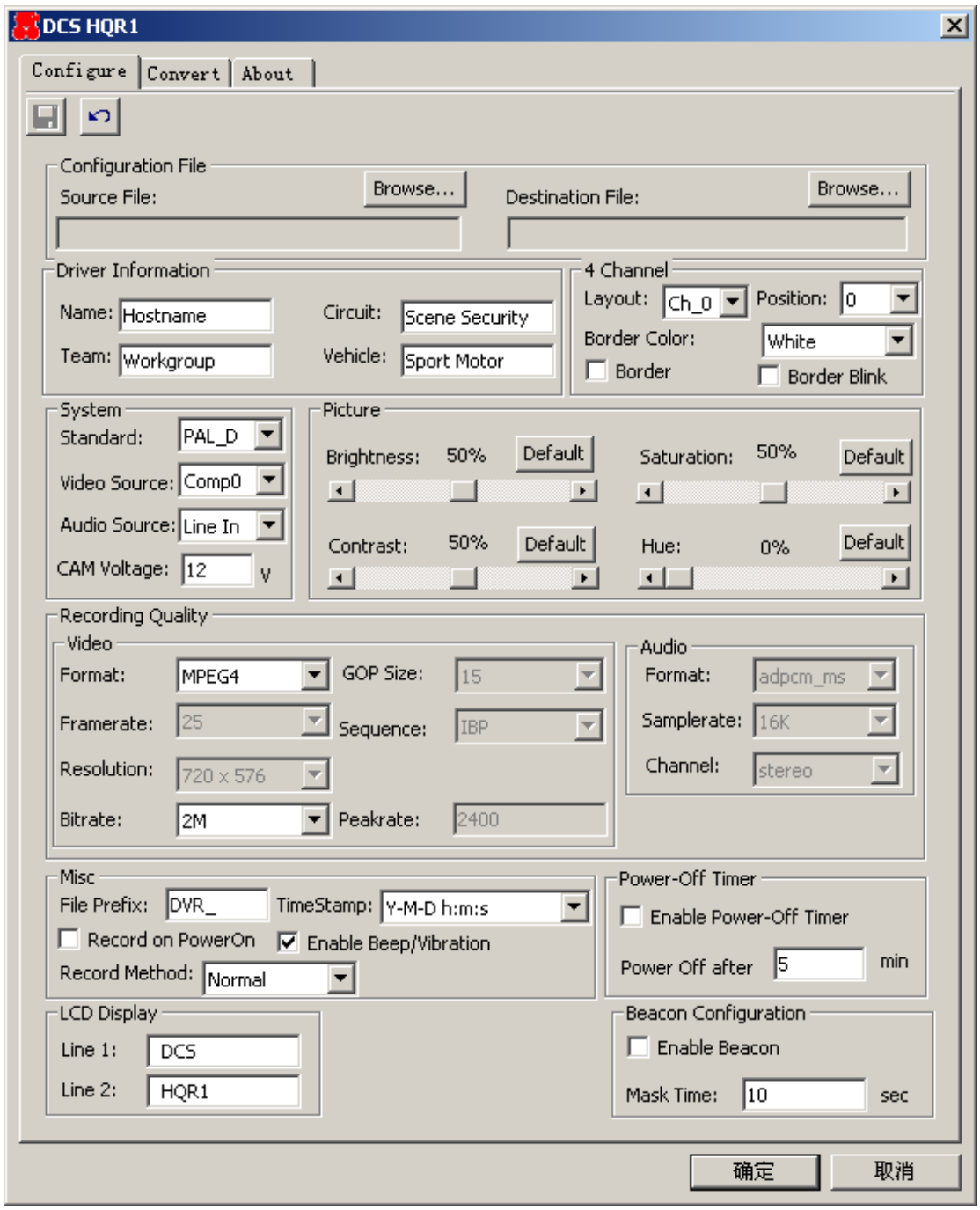
DirectX 9.0c is required to install and run DCS HQR1 DVR software.

## Configuration of DCS HQR1 DVR

The HQR1 DVR is initialized as ipcam.ini under the root directory of the CF card. It must be in the root directory of CF card. The HQR1 DVR will use the last time configuration if ipcam.ini is not found during startup.

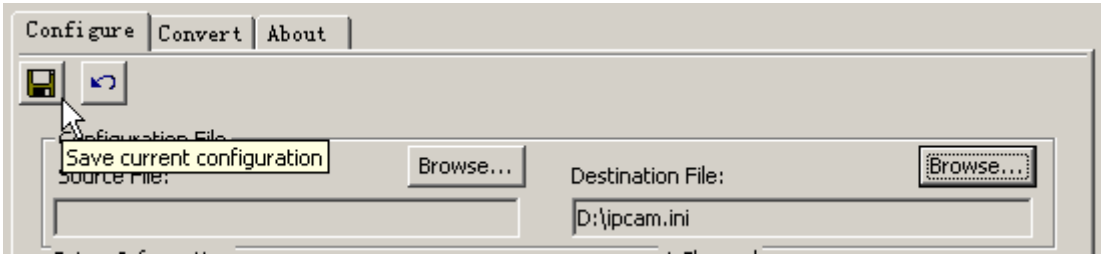
Double click to configure DCS HQR1 DVR.

DCS HQR1 DVR Desktop Software can configure the video format, average bit rate, audio in, TV system, time stamp, beacon, convert the recording video etc.

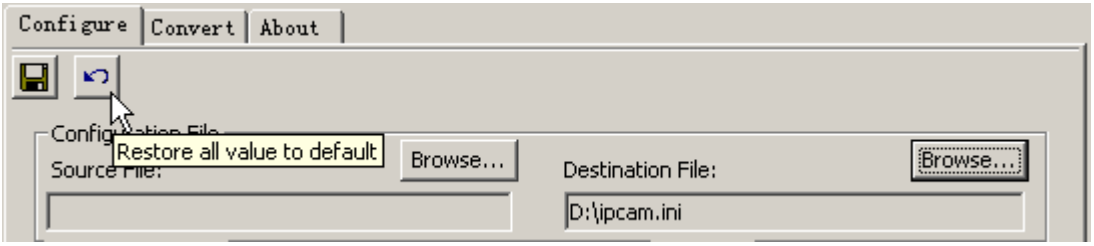



Click **Configure** tab on the configuration page to configure the DCS HQR1 DVR.

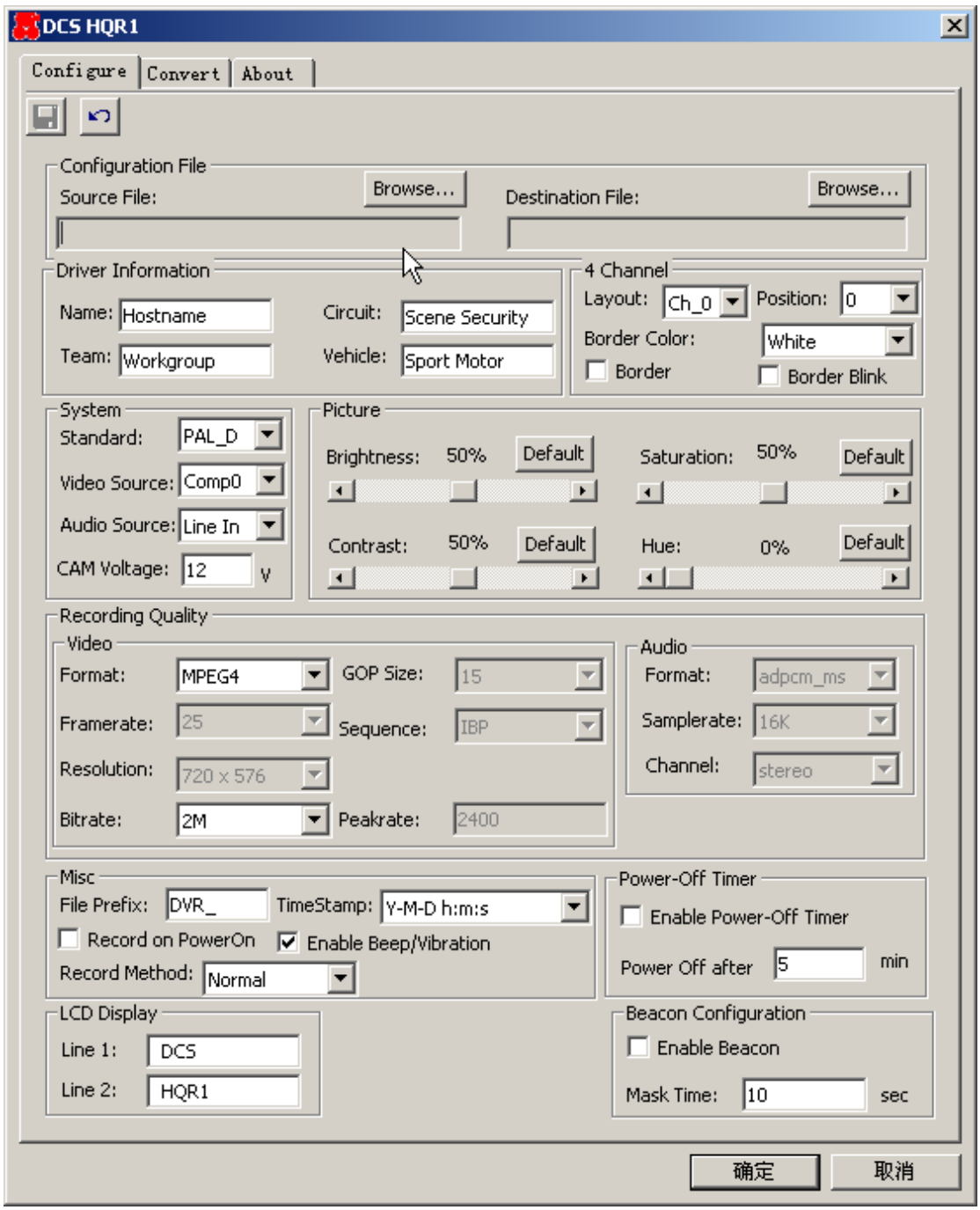
Click **Source File Browse...** to import the ipcam.ini file if there is an old configuration file available on CF card. Leave Source File empty if there is no ipcam.ini file available. Destination File is where to save the generated ipcam.ini, usually it is the same path as the imported source file. You can click **Browse...** to select a folder or drive.




After selecting the destination file, click **Save** button to save current configuration in the configuration file.

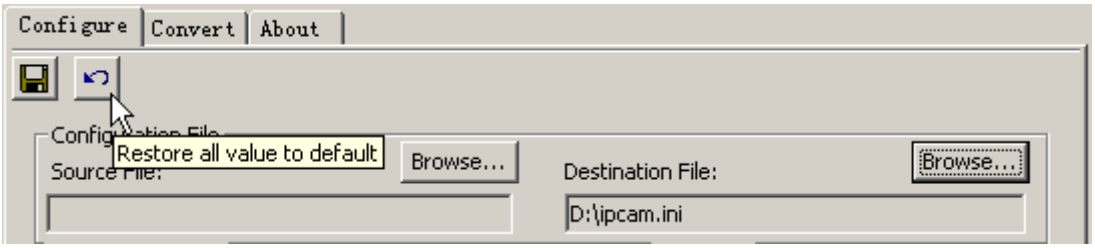



If you want to use a default configuration, please click **Restore** button to restore all values to default configuration.



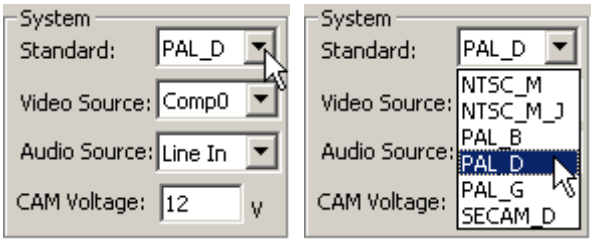

Don't manually modify ipcam.ini. Please use the DCS HQR1 DVR Desktop Software, which is a Windows configuration software for DCS HQR1 DVR, to configure the ipcam.ini file.

Sometimes, if you lose your ipcam.ini or want to restore default configuration of DCS HQR1 DVR, it is simple, you can click **Restore** button to restore all values to default setting for DCS HQR1 DVR only.



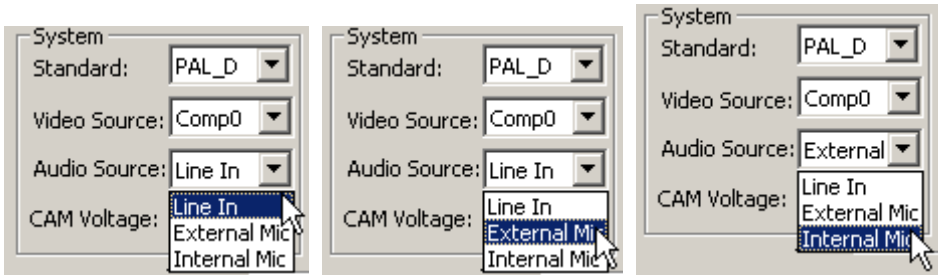

## Video System

Please select correct video standard which corresponding to the video source of camera. Default video standard is now PAL D. It has to be changed for other video standards.



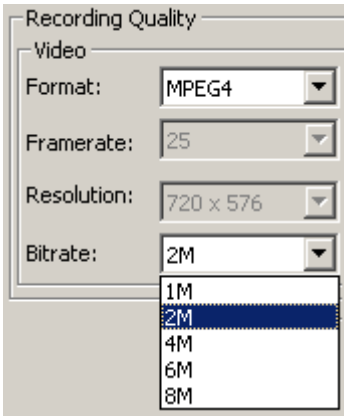

## Audio Source

Please select the correct audio in setting which is based on your actual audio input. Default audio source is Line In, you need to select External Mic if you use an external microphone, or you can select Internal Mic item if you use the internal microphone in DCS HQR1 DVR.



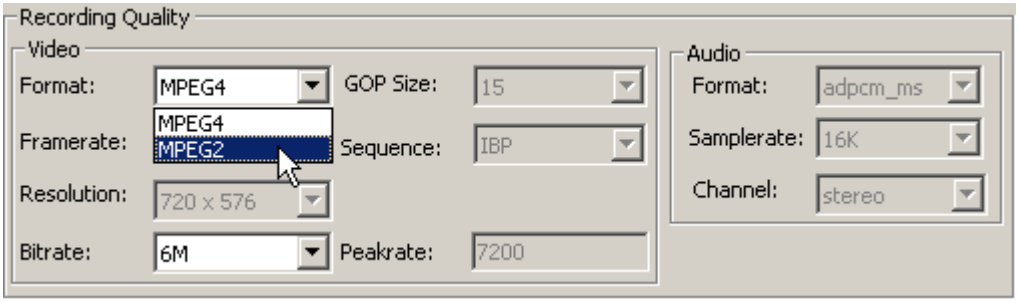

## Bit Rate

Select proper bit rate based on the scene and video quality required. Please refer to Video Quality section.



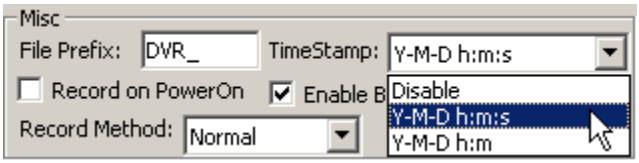

## Video Format

Select MPEG-2 or MPEG-4 for video format for your recording.

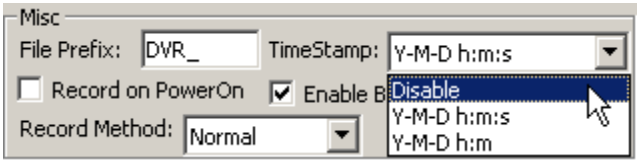



## Time Stamp

You can enable time stamp in two formats to stamp your recorded video with real date & time.




You can disable Time Stamp features if you don’t need to record date & time in your recordings.

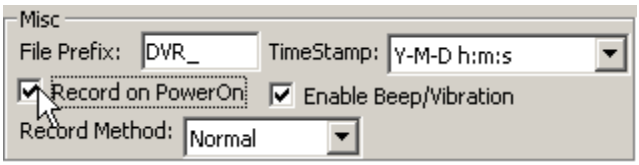



In DCS HQR1 DVR, priority of Beacon is higher than Time Stamp, the Time Stamp will be disabled at once when the Beacon is enabled.

## Record on Power On

In some applications, you may need the HQR1 DVR to record automatically once the HQR1 DVR is powered on.

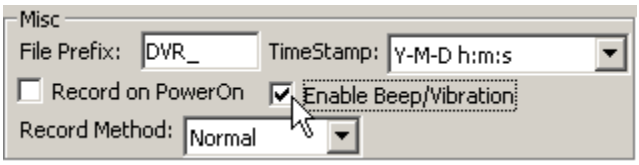
You can switch on the **Record on PowerOn** option in the HQR1 DVR Desktop.



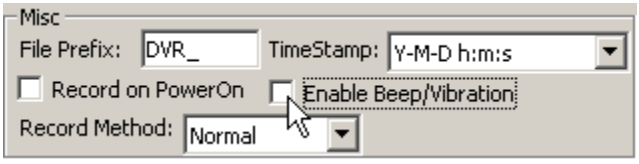

The default status of record is manual record via IR remote control, LANC remote control or push button.

## Beep/Vibration

DCS HQR1 DVR will beep or vibrate to warn you when it starts or stops recording, In some special applications or occasion/environment, you may want to turn this function off, you can disable beep/vibration function.




The default configuration is enable beep/vibrate feature, you can disable it in DCS HQR1 DVR Configure Utility.




Siwtch off Enable Beep/Vibration options in DCS HQR1 DVR Configure Utility to disable it, now you can operate DCS HQR1 DVR in silent mode.

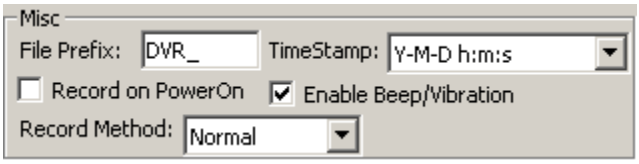
## Record Method : Normal & Cycle Record

You can configure the DCS HQR1 DVR in normal record or cycle record mode.

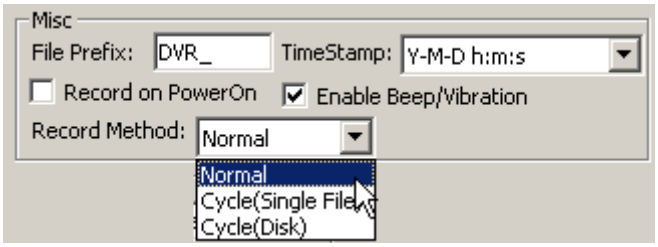
**1. Normal Record Mode**

In normal record mode, DCS HQR1 DVR will record video & save recordings in a multi-single video file, the maximum size of a single recording video file is 2GB depending on limit of system.

The default record method is Normal mode.




You can select Normal **Record Method** option to enable normal record mode if current configuration is cycle item.




If you want to use the HQR1 DVR in a surveillance application, you can set the **Record Method** to Cycle Record mode.

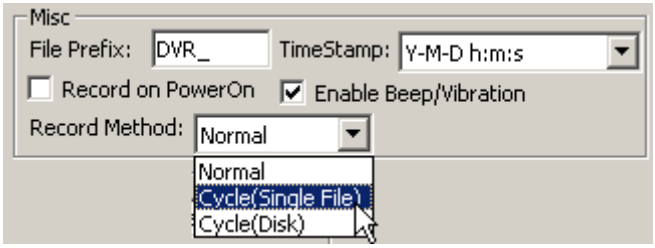
**2. Single File Cycle Record Mode**

The HQR1 DVR has two cycle record modes, Single File Cycle Record & Full Disk Cycle Record mode.

In Single File Cycle Record mode, the HQR1 DVR will save recordings in single file only, the maximum size of single recording video file is 2GB, when video reaches the 2GB limit, the system will save the new recordings from the begin of recorded video file.

If your CF card is smaller than 2GB, the HQR1 DVR will save recorded video in single file only, when CF card is full, the system will save the new recorded video from the beginning of the recorded video file.

You can select Cycle (Single File) item in **Record Method** option to enable Single File Cycle Record mode.

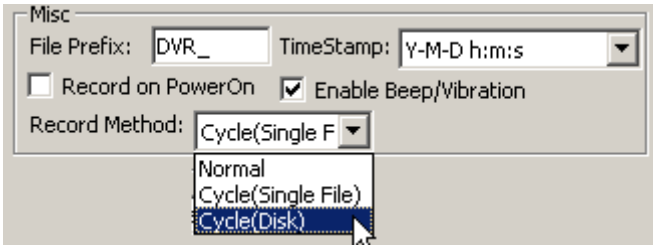



**3. Full Disk Cycle Record Mode**

In Full Disk Cycle Record mode, the HQR1 DVR will record continually; when the CF is full, the HQR1 DVR will record the video overwriting the oldest recorded

file.

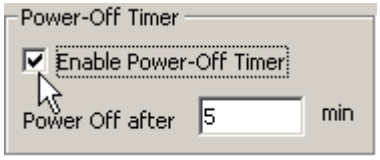
You can select Cycle (Disk) item in **Record Method** option to enable Full Disk Cycle Record mode.



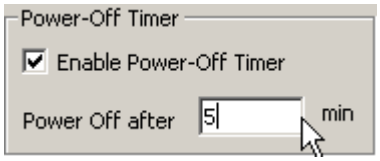

If you set the HQR1 DVR in cycle record mode, all old recorded video files on the CF card will be deleted on system startup.

## Power-Off Timer

To save the battery power, you can enable the HQR1 DVR to power off automatically depending on the timer that you set.



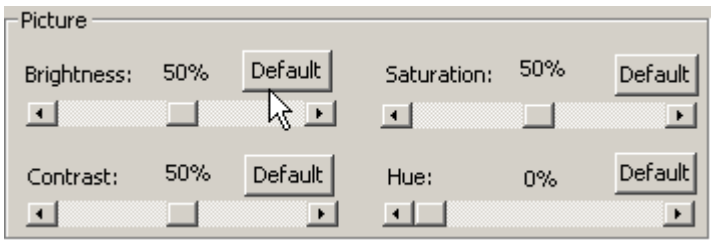

You can set the timer depending on your actual requirements.




The default status of Power-Off Timer is disable.

## Picture Adjust

You can adjust the brightness, contrast, saturation & Hue of the picture to get the best quality. The default value is 50%, you can click the **Default** button to restore the default values.



### LCD Display

You can customize the LCD message.

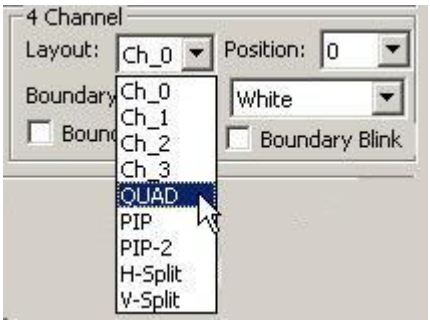
The maximum number of characters of every line is 8, you can use printable characters only & exclude the character "~".

## Configure 4-Channel HQR1-C4 DVR

The 4-Channel HQR1-C4 DVR can connect four video inputs at the same time.

### Video Input

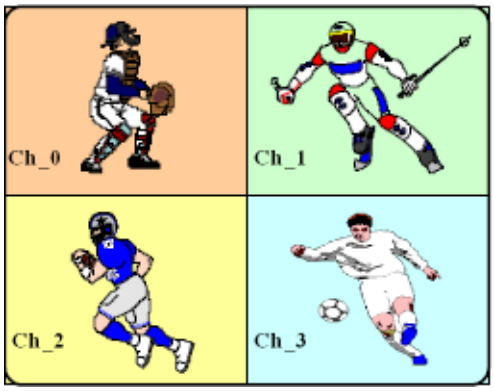
You can select 1, 2, 3 or 4 channel video inputs at the same time.




In the 4 Channel area, pull down the menu of Layout to select the video input source, amount of video inputs and video input arrange method.

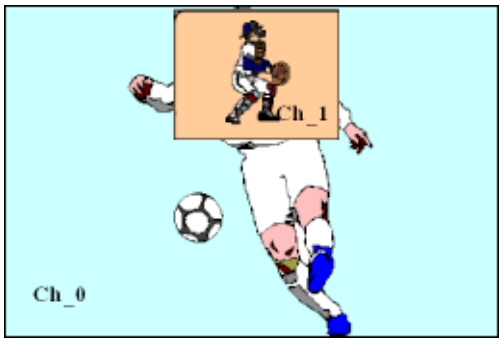
The **Ch_0**, **Ch_1**, **Ch_2** & **Ch_3** items mean video in 0 to video in 3 inputs are slected, this is for 1 channel recordings, you can select any video input that you want to record from.

If you want to record 4 channel video at the same time, please select **QUAD**. The recorded video will include 4 channel video in one video file.



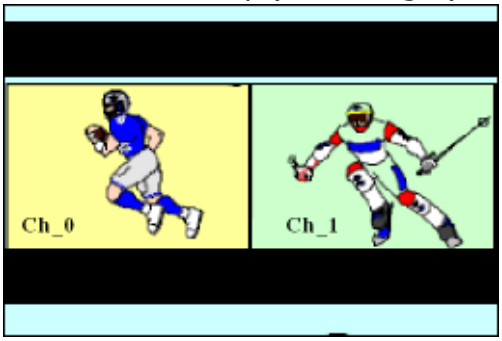

**PIP** item is for 2 channel video input at the same time, the 2 channel video will be recorded in one video file at the same time.

**PIP** mode supports nine different positions beforehand, please consult the **Picture-In-Picture (PIP)** chapter for more details.

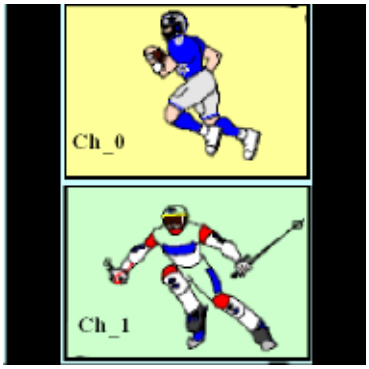


**PIP-2** item is for 3 channel video input at the same time, the 3 channel video will be recorded in one video file at the same time.

**H-Split** item is for 2 channel video input at the same time, the 2 channel video will be recorded in one video file. **H-Split** item means the 2 channel video input array in recording video file horizontally (Left & Right).

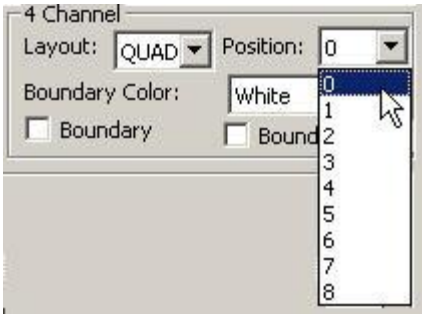



**V-Split** item is for 2 channel video input at the same time, the 2 channel video will be record in one video file at the same time. **V-Split** item means the 2 channel video input array in recording video file vertically (Top & Button).

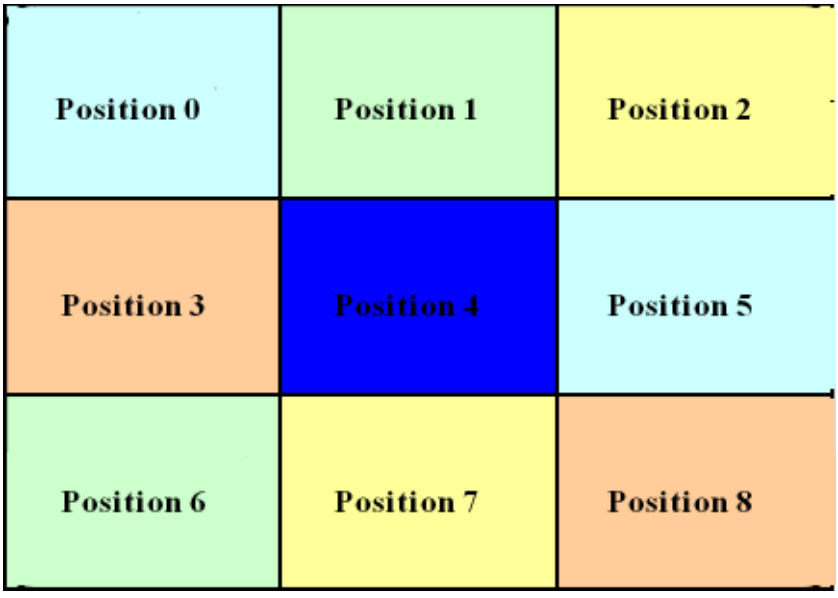



## Picture-In-Picture (PIP)

You can configure any position for PIP recording video, it has nine different positions, you can select any position for your requirement from the **Position** option.




You can configure or switch the array method of Picture-In-Picture via the HQR1 DVR Desktop Software & IR remote controller.

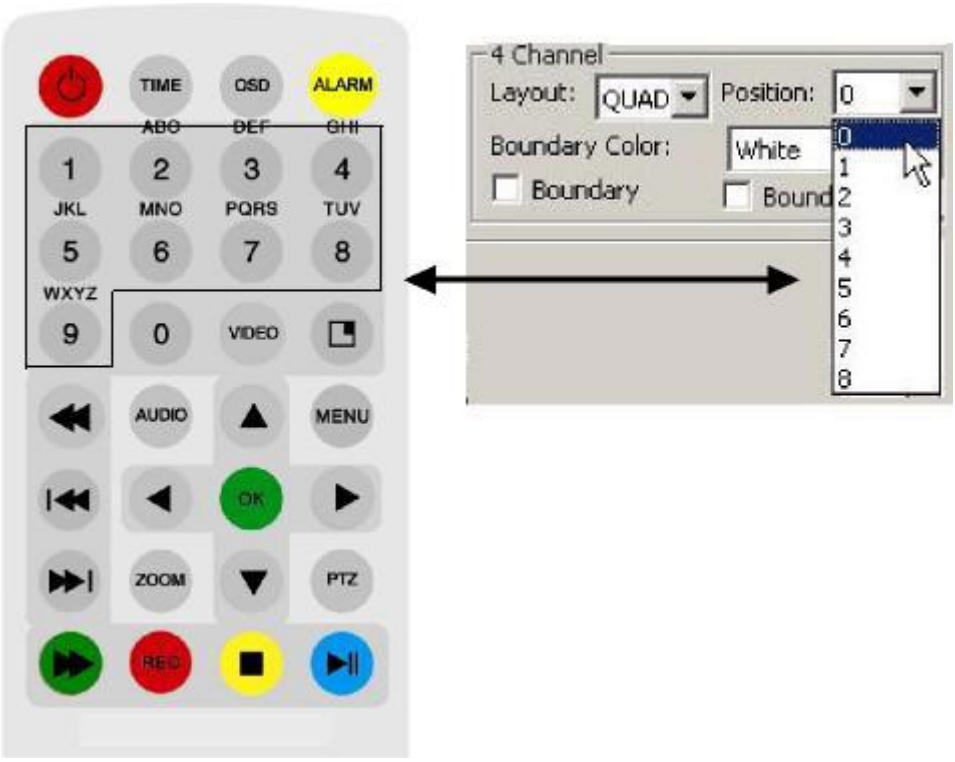



The numeric keys on the IR remote controller is can be programmed with 9

array methods of Picture-In-Picture, you can configure it & select any one array method as your default array using the HQR1 DVR Configuration Utilities.

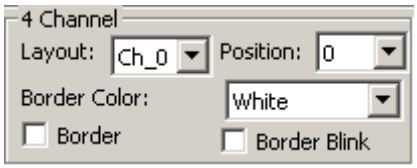
You can switch the array method using the numeric keys on the IR remote controller directly when you record the video using the 4 Channel HQR1-C4 DVR. The numeric keys 1~9 is controls the 9 items in the **Position** pull down menu.

| Numeric Key on IR remote Controller | Item in Position Menu |
|---|---|
| 1 | Position 0 |
| 2 | Position 1 |
| 3 | Position 2 |
| 4 | Position 3 |
| 5 | Position 4 |
| 6 | Position 5 |
| 7 | Position 6 |
| 8 | Position 7 |
| 9 | Position 8 |




## The Border of Frame

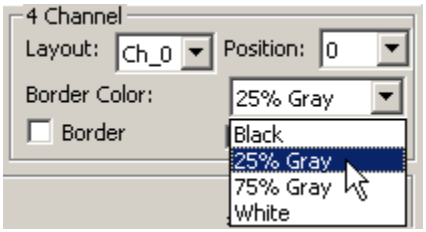
When you use 2 or 4 channel video input, you can enable/disable or select different styles of frame for a better scene effect.




Switch on **Border** option to enable frame of video for Picture-In-Picture function.

At the same time, you can switch on **Border Blink** option to enable frame of video.

You can select 4 different styles of border frame.




## Configuration Menu Output

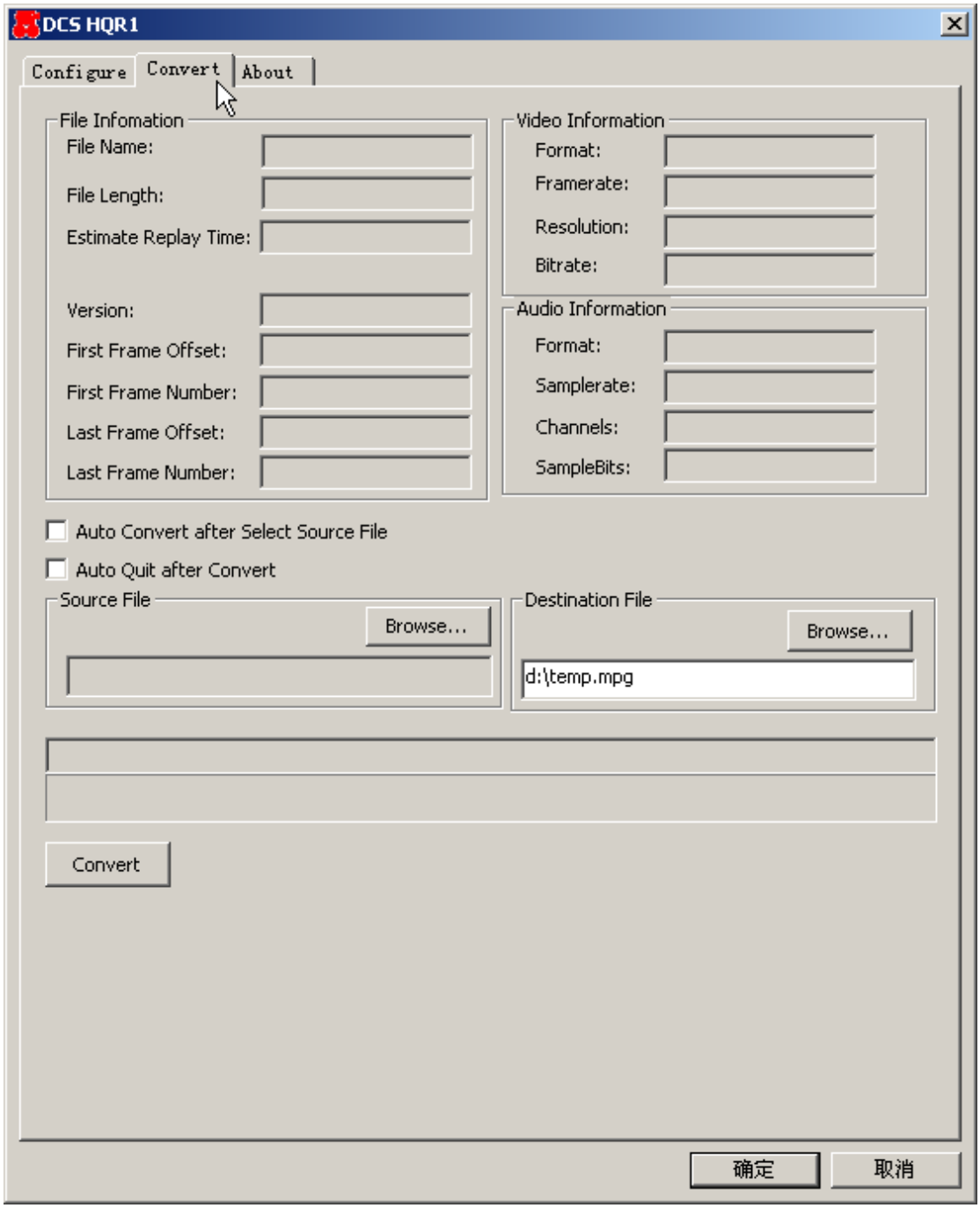
4 Channel HQR1-C4 DVR supports analog output to TV or Monitor, when you connect a TV or Monitor to the Audio/Video Output, you can preview current video & the configuration menu.

***NOTE: This option is only for 4-Channel DCS HQR1-C4 DVR, it is not supported by 1-CH DCS HQR1 DVR.***

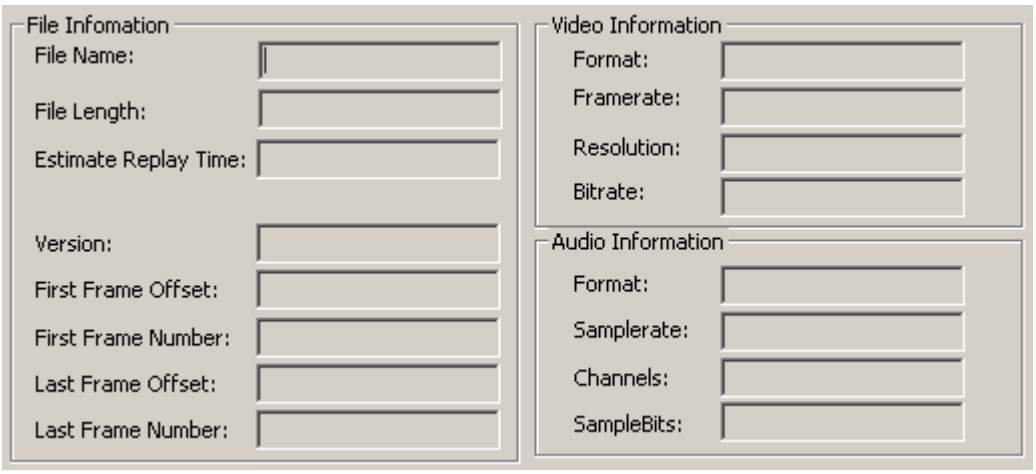
# MPEG-2 Converter

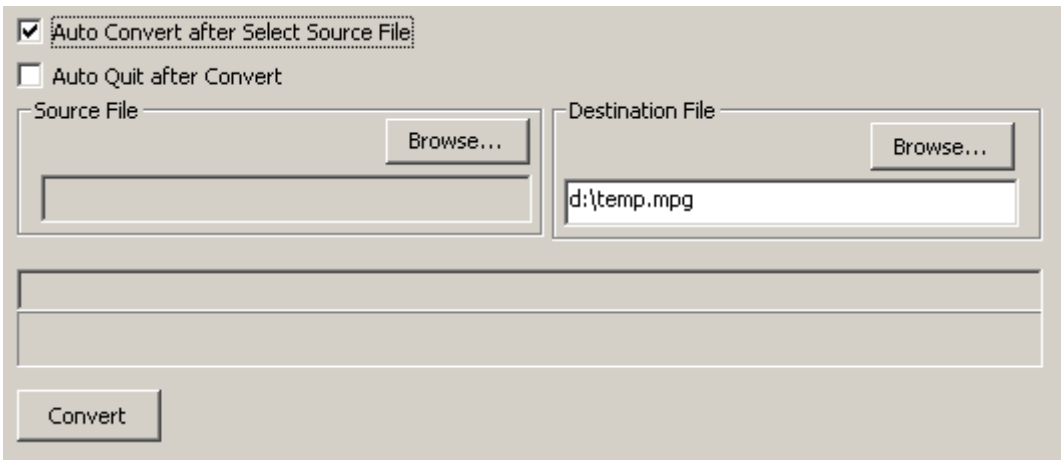
Recorded MPEG-2 files have to be converted to standard MPEG-2 video for later video replay, edit & burn. The conversion of MPEG-4 is not required.

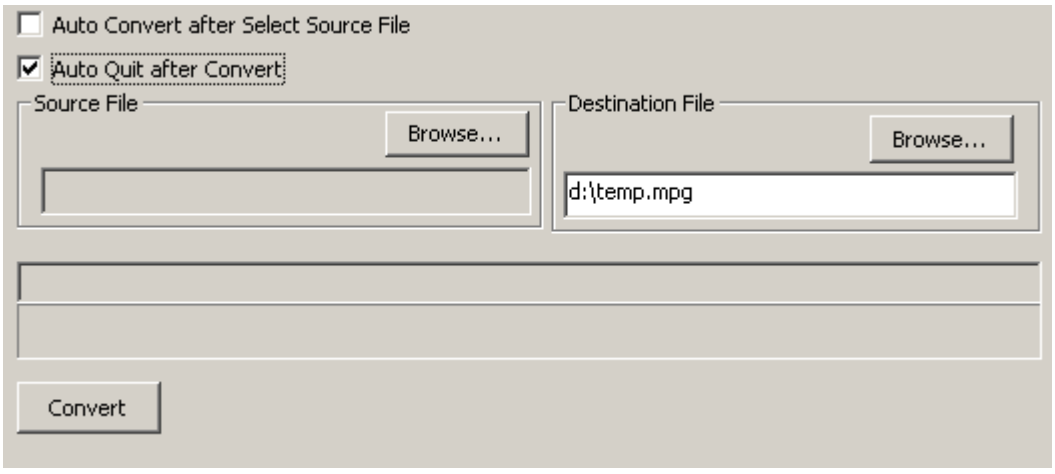
Click **Convert** tab on the video convert page to convert the MPEG-2 recording video.

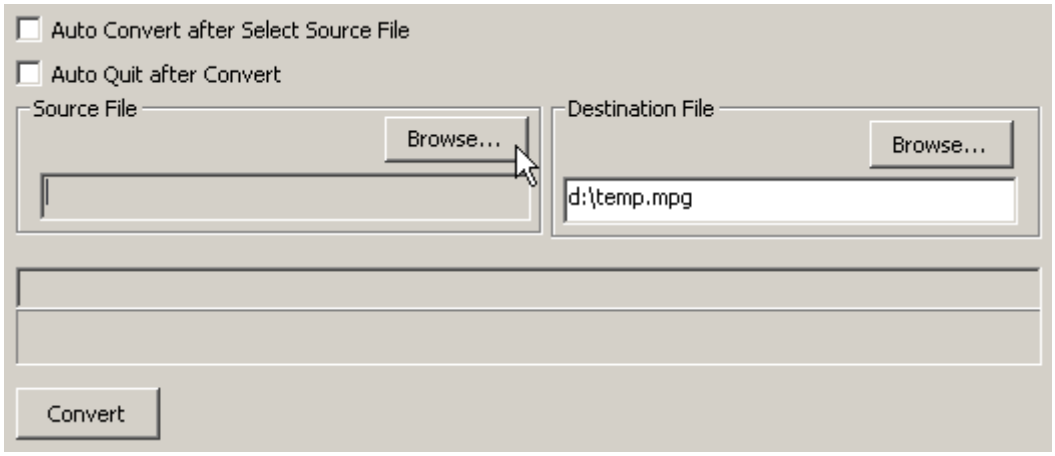


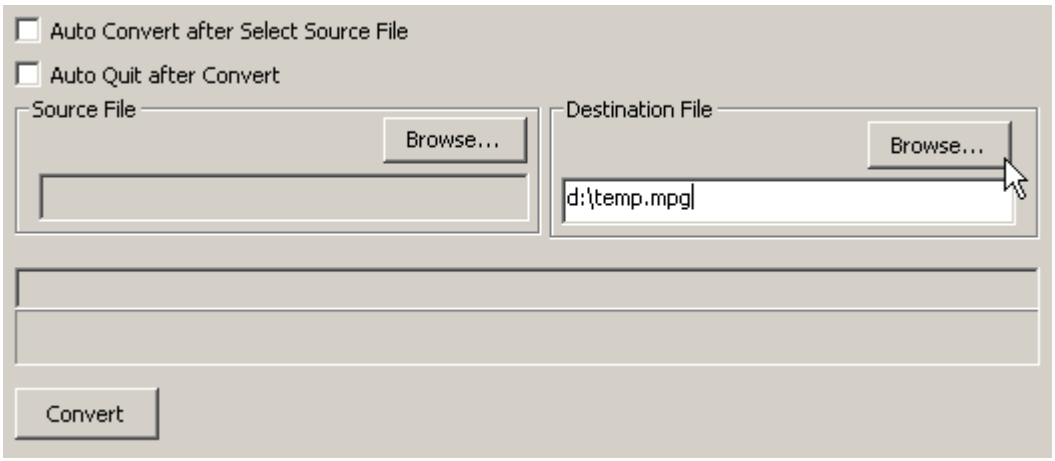

After you select the source file to convert, detailed information of the recorded MPEG-2 video will be displayed.

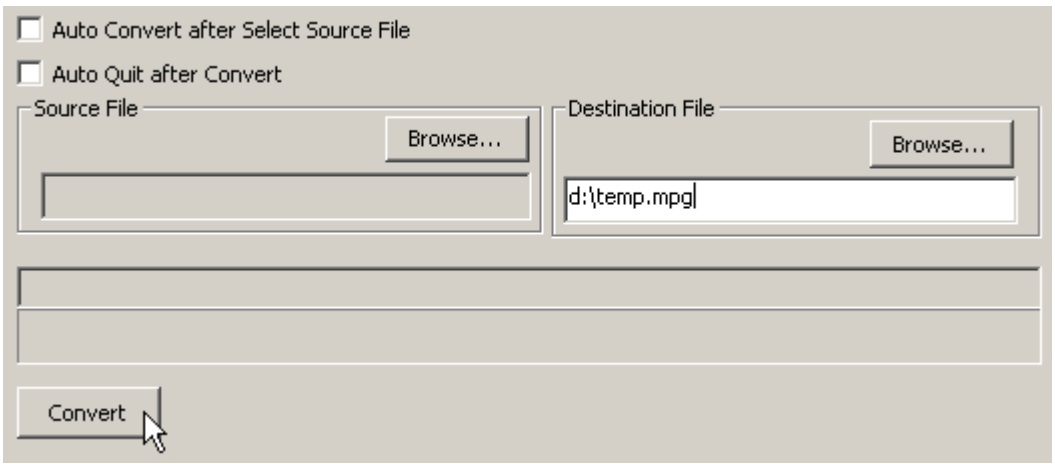

File Infomation
File Name:
File Length:
Estimate Replay Time:
Version:
First Frame Offset:
First Frame Number:
Last Frame Offset:
Last Frame Number:
Video Information
Format:
Framerate:
Resolution:
Bitrate:
Audio Information
Format:
Samplerate:
Channels:
SampleBits:


Auto Convert after Select Source File
Auto Quit after Convert
Source File
Browse...
Destination File
Browse...
d:\temp.mpg
Convert


Auto Convert after Select Source File
Auto Quit after Convert
Source File
Browse...
Destination File
Browse...
d:\temp.mpg
Convert



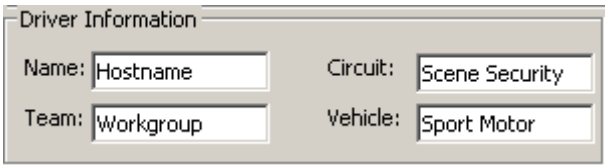




For better performance of conversion, it is recommend that source file is on the CF card in a card reader and target file is on the hard disk.

# Lap Timer

## Configuration of Lap Timer

Set device information in **DCS HQR1 DVR Desktop Software**.



Set Beacon Enable to receive Beacon signal. The default is disable.

The **Time Stamp** will be disabled when you enable the beacon function.

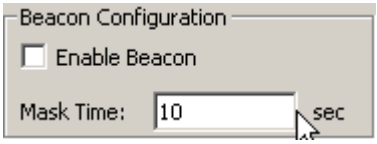
The Beacon Configuration option is only for the special edition of DCS HQR1 DVR with Lap Timer function.

## Connection

Simply connect the External Beacon Receiver into the Beacon jack on the DCS HQR1 DVR and point the External Beacon Receiver to the Beacon. The Lap Timer will start to work when Beacon signal is detected.

## Mask Time

The Mask Timer is the time interval that DCS HQR1 DVR doesn't respond after the detection of Beacon signal. The default value is 10 sec.




## Recording of Lap Time

The time of each lap is record in the DVR_xxx.txt file. The file will look like:

**Hostname**
**Team WORKGROUP**
**Sport Motor**
**Scene Security**

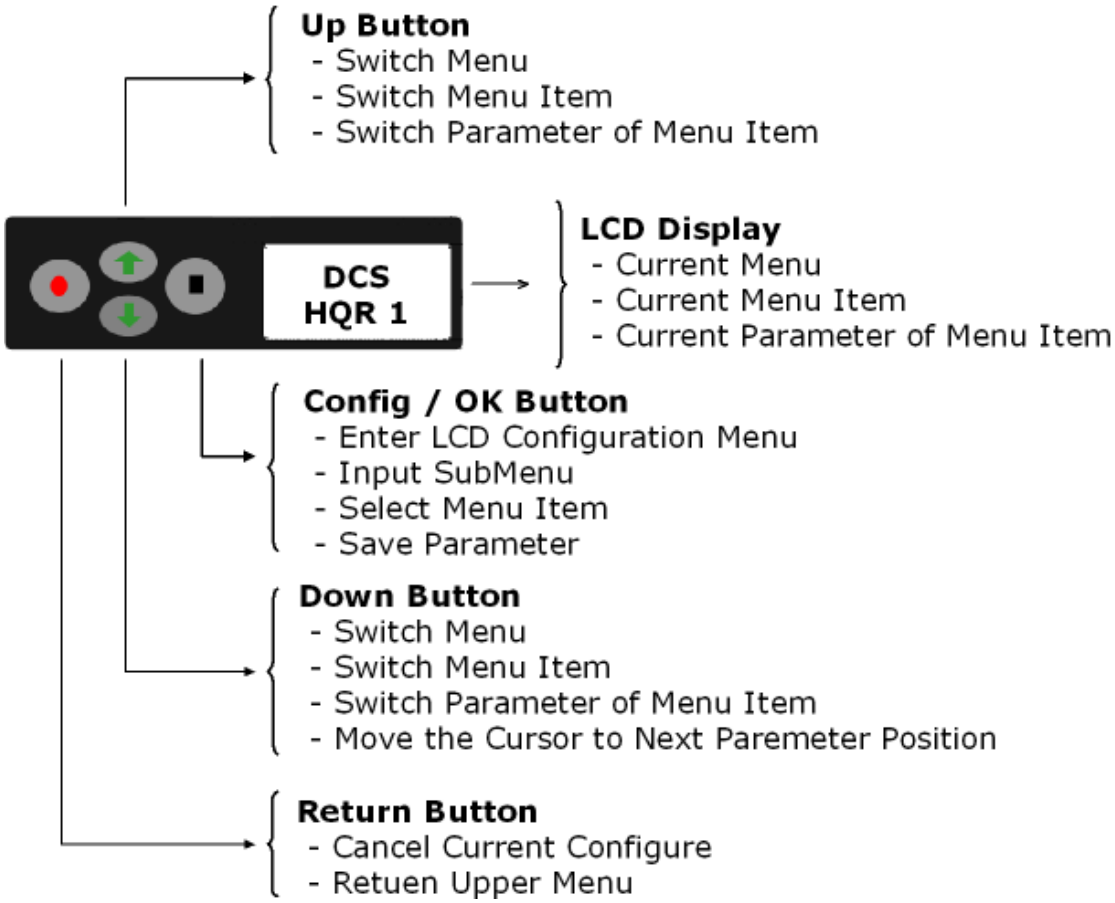
**READY.. = 04:05.588**

**Summary:**
**Total Record Time: 04:05.588**

**** Lap Timer is not a standard function of DCS HQR1 DVR standard version, it is optional only for special version.***

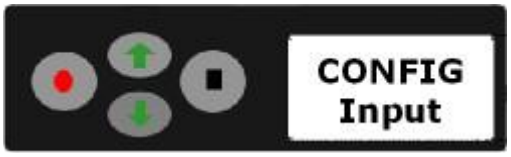
# Configure DCS HQR1 DVR using LCD Configuration Menu

## LCD Configuration Menu




## Enter/Quit LCD Configuration Menu

Hold push button ■ for at least 3 seconds to enter the LCD configuration menu, once you enter LCD configuration menu successfully, the LCD will display valid menu/menu item & parameters of these menu items depend on your HQR1 DVR version.




After you finish configuring, press ● to quit to upper menu.

You may need to press one or two times once depending on your position in menu.

Once you enter the LCD configuration menu, the system will wait for you to select & configure, if you don't press any buttons, the system will quit the LCD configuration menu after 10 sec automatically.

## Configure DCS HQR1 DVR in LCD Configuration Menu

Once you enter LCD configuration menu, you can switch menu using & buttons, then press to select the menu/menu item that you want to configure. Using select the parameter value & parameter area that you want to configure, then press to save the configuration.

When you finish configuration, press one or two times once to quit LCD configuration menu.

## LCD Configuration Menu Details

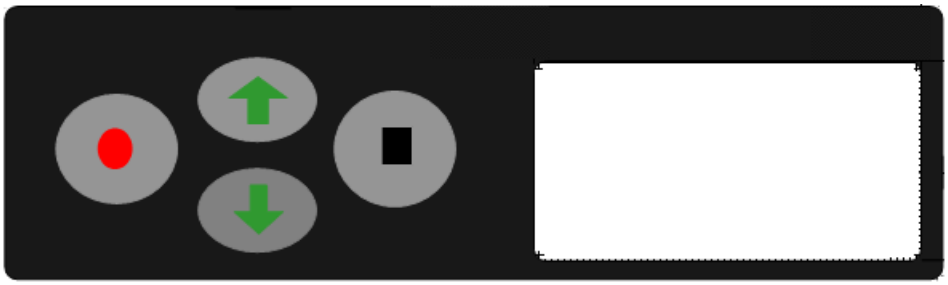
### Menu

The valid menu of DCS HQR1 DVR is:

- **DATE**
- **INPUT**
- **VIDEO**
- **BEACON**
- **USERDES**
- **MISC**

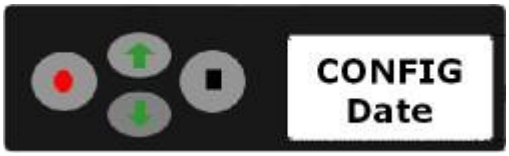
In LCD configuration menu, Press & to navigate these menus.

Press to quit configuration menu return to ready status.



## Menu Item & Parameter

### DATE Menu




| Menu | Menu Item | Parameter |
|---|---|---|
| DATE | DATE | • 07-04-02 |
| | TIME | • 12:00:00 |
| | STAMP | • Enable<br>• Disable |

#### 1. Menu Item – Date

The parameter format is yy-mm-dd, please set correct date.

Use to select correct year, then press switch to month area, use select correct month, then press switch to day area, use select correct day, press will switch to year again, finish setting the correct date, press to save the current configuration, press quit to **DATE** menu.

#### 2. Menu Item – Time

The parameter format is hour-minute-second, please set correct time.

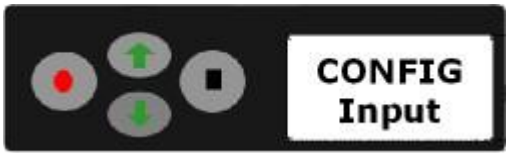
Use select correct hour, then press switch to minute area, use select correct minute, then press switch to second area, use select correct second, press will switch to hour again, finish setting the correct time, press save the current configuration, press quit to **TIME** menu.

### 3. Menu Item – Stamp Status

Default status of stamp is **Disable**, please select proper stamp status to your requirements

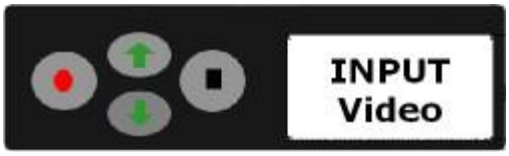
Press & to switch **Disable** & **Enable** status, then press save current configuration, press quit the **STAMP** menu.

## INPUT Menu




| Menu | Menu Item | Parameter |
|---|---|---|
| INPUT | VIDEO | • QUAD<br>• PIP<br>• PIP2<br>• H-Split<br>• V-Split |
| | AUDIO | • Line In<br>• Ext Mic<br>• Int Mic |

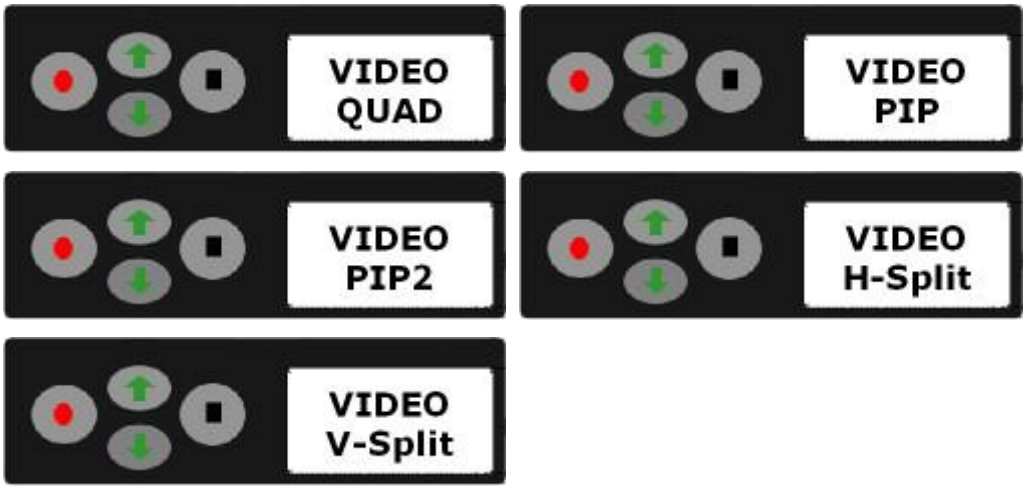
### 1. Menu Item – Video Input



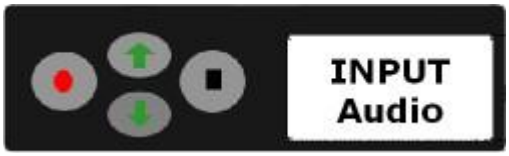

You can configure the multi video input at the same time, this menu item is only for 4 Channel HQR1-C4 DVR.

Please consult 4 channel configuration chapters to get the details of this item.

Press ↑ & ↓ to switch video input configuration, then press ■ save current configuration, press ● to quit the **VIDEO** menu.



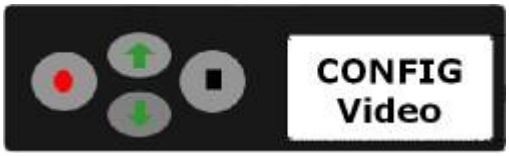

**2. Menu Item – Audio Input**




Default parameter is **Line In**, please select **Ext Mic** if you use external microphone input, or select **Int Mic** if you use internal microphone in the HQR1 DVR.

Press ↑ & ↓ to switch **Line In**, **Ext Mic** & **Int Mic** parameter, then press ■ to save the current configuration, press ● quit the **AUDIO** menu.

## VIDEO Menu

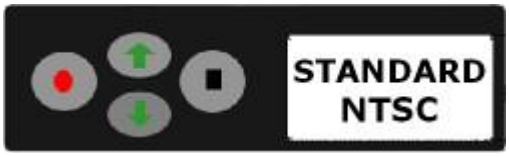


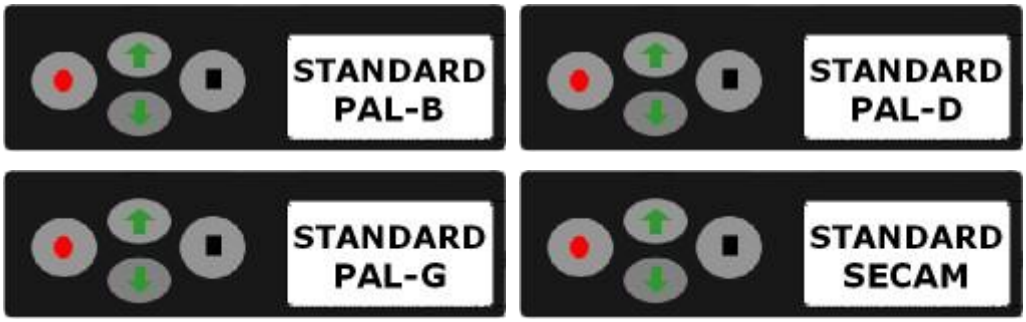

| Menu | Menu Item | Parameter |
|---|---|---|
| VIDEO | STANDARD | • NTSC<br>• NTSC-J<br>• PAL-B<br>• PAL-D<br>• PAL-G<br>• SECAM |
| | FORMAT | • MPEG-4<br>• MPEG-2 |
| | QUALITY | • 1M<br>• EP (2M)<br>• LP (4M)<br>• SP (6M)<br>• HQ (8M) |

### 1. Menu Item – Video Standard

Default parameter is **NTSC**, please select correct video standard depend on your video source.

Press & to switch the video standard parameter, then press to save the current configuration, press quit the **STANDARD** menu.






**2. Menu Item – Video Format**

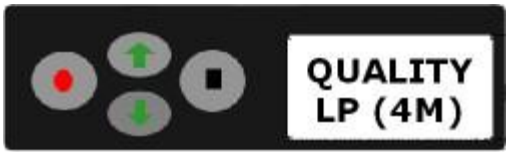
Default parameter is **MPEG-4**, please select correct video format to suit.

Press ↑ & ↓ to switch **MPEG-4** & **MPEG-2** format, then press ■ to save current configuration, press ● quit the **FORMAT** menu.

**3. Menu Item – Video Quality**

Default parameter is **EP (2M)**, please select proper video quality to suit.

Press ↑ & ↓ to switch **1M**, **EP (2M)**, **LP (4M)**, **SP (6M)** & **HQ (8M)** quality, then press ■ to save current configuration, press ● quit the **QUALITY** menu.



## BEACON Menu

| Menu | Menu Item | Parameter |
|---|---|---|
| BEACON | BEACON | • Disable<br>• Enable |
| | MASK | • 10 Sec |

### 1. Menu Item – Beacon Status

Default status of beacon is **Disable**, please select proper beacon status to suit.

Press & to switch **Disable** & **Enable** status, then press to save current configuration, press quit the **BEACON** menu.

### 2. Menu Item – Beacon Mask Delay

Default parameter of beacon mask delay is **10 Sec**, please select proper delay time to suit.

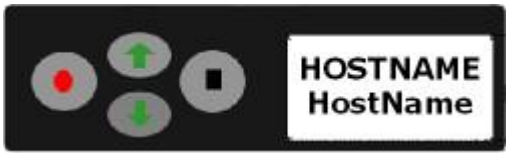
Press & to select proper value of beacon mask delay, then press to save current configuration, press quit the **MASK** menu.

## USERDES Menu

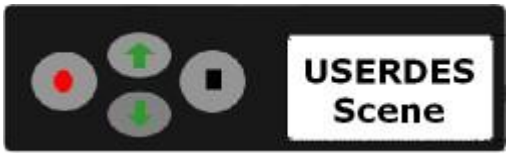
| Menu | Menu Item | Parameter |
|---|---|---|
| USERDES | HOSTNAME | • HostName |
| | SCENE | • Scene |
| | GROUP | • Group |
| | CARRIER | • Carrier |

### 1. Menu Item – Hostname

Default value of **HostName** is Hostname, use select correct first letter, then press switch to next letter area, until all letters are set, finish setting the correct hostname, press to save current configuration, press quit the **HostName** menu item.




### 2. Menu Item – Scene




Default value of **Scene** is Scene, use select correct first letter, then press switch to next letter area, until all letters are set, finish setting the correct

scene, press ■ to save current configuration, press ● quit the **Scene** menu item.

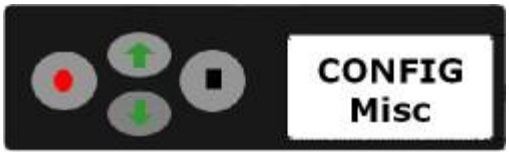
### 3. Menu Item – Group

Default value of **Group** is Group, use ↑ select correct first letter, then press ↓ switch to next letter area, until all letters are set, finish settting the correct group, press ■ to save current configuration, press ● quit the **Group** menu item.

### 4. Menu Item – Carrier

Default value of **Carrier** is Carrier, use ↑ select correct first letter, then press ↓ switch to next letter area, until all letters are set, finish setting the correct carrier, press ■ to save current configuration, press ● quit the **Carrier** menu item.

## MISC Menu

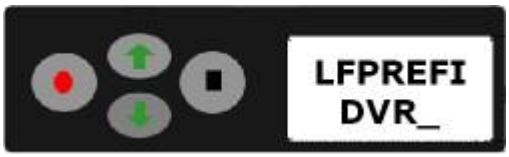



| Menu | Menu Item | Parameter |
|---|---|---|
| MISC | LFPREFI | • DVR_ |
| | SYSCLOC | • Yes<br>• No |

**1. Menu Item – File Prefix**

Default value of file prefix is **DVR_**, you can change it to suit your requirements.

use to select correct first letter, then press switch to next letter area, until all letters are set, finish setting the correct hostname, press to save current configuration, press to quit the **Lfprefi** menu item.




**2. Menu Item – SysCloc**

The system clock of the HQR1 DVR needs to be calibrated for accurate time recording, it is important for the Lap Timer. The default value is No, if you need to calibrate the system clock, use select Yes, then press to start calibrating.

After you select **Yes** to start calibrating, the HQR1 DVR will restart.

The system clock will be calibrated on reboot.

After the system clock of HQR1 DVR is calibrated successfully, the DCS HQR1 DVR will restart again.

## LCD Configuration Menu Structure

| Menu | Menu Item | Parameter |
|---|---|---|
| | | |
| **INPUT** | VIDEO | - QUAD<br>- PIP<br>- PIP2<br>- H-Split<br>- V-Split |
| | AUDIO | - Line In<br>- Ext Mic<br>- Int Mic |
| **VIDEO** | STANDARD | - NTSC<br>- NTSC-J<br>- PAL-B<br>- PAL-D<br>- PAL-G<br>- SECAM |
| | FORMAT | - MPEG-2<br>- MPEG-4 |
| | QUALITY | - 1M (1M)<br>- EP (2M)<br>- LP (4M)<br>- SP (6M) |

| | | |
|---|---|---|
| | | - HQ (8M) |
| **DATE** | DATE | 07-03-20 |
| | TIME | 12:00:00 |
| | STAMP | - Enable<br>- Disable |
| **BEACON** | BEACON | - Enable<br>- Disable |
| | MASK TIME | 10 sec |
| **USERDES** | HOSTNAME | HostName |
| | SCENE | Scene |
| | GROUP | Group |
| | CARRIER | Carrier |
| **MISC** | LFPREFI | DVR_ |
| | SYSCLOC | - Yes<br>- No |

# Firmware Upgrade

The firmware of the HQR1 DVR can be upgraded if necessary. The HQR1 DVR will check the core image file on CF card while power up. If an image & OSD file is found then the firmware of the HQR1 DVR will be upgraded automatically. Please follow below instructions to upgrade.

**1. Upgrade 1 Channel DCS HQR1 DVR**

1) Format CF card in FAT32 file system.
2) Copy imge.2510.img and osd.img to the root of CF card.
3) Use **DCS HQR1 DVR Desktop Software** to generate ipcam.ini depending on your needs. Ipcam.ini must be under the root of CF card while upgrading.
4) Power off and then insert CF card into DCS HQR1 DVR.
5) Turn on the power of DCS HQR1 DVR.
6) The firmware will be upgraded after power on. The LED turns to red, then yellow and alternately flashes red and yellow several times. It takes about two minutes to upgrade.
   At the same time, LCD will display schedule of upgrade process if you upgrade from Firmware V1.0.4 or newer.

   When the DCS HQR1 DVR upgrades successfully, it will reboot automatically.

   *** DON'T TURN OFF POWER DURING THIS PERIOD!!**
7) The DCS HQR1 DVR will be rebooted automatically after upgrade. The LED will change to red, yellow and then green. It takes about 12 seconds to reboot.
8) A Beep will sound one time once the DCS HQR1 DVR upgrades successfully.

**2. Upgrade 4 Channel HQR1-C4 DVR**

1) Format CF card in FAT32 file system.
2) Copy imge.2510.img, osd.img & osd_4ch.img to the root of CF card.
3) Use **DCS HQR1 DVR Desktop Software** to generate ipcam.ini depend on your need configuration. Ipcam.ini must be under the root of CF card while upgrading.

4) Power off and then insert CF card into HQR1-C4 DVR.
5) Turn on the power.
6) The firmware will be upgraded after power on. The LED turns to red, then yellow and alternately flashes red and yellow several times. It takes about two minutes to upgrade.
   At the same time, LCD will display schedule of upgrade process if you upgrade from Firmware V1.0.4 or newer.

   When the DCS HQR1-C4 DVR upgrades successfully, it will reboot automatically.

   *** DON'T TURN OFF POWER DURING THIS PERIOD!!**
7) The HQR1-C4 DVR will be rebooted automatically after upgrade. The LED will change to red, yellow and then green. It takes about 12 seconds to reboot.
8) A Beep will sound once the DCS HQR1 DVR is rebooted successfully.
9) Power off 4 Channel HQR1-C4 DVR, then power on 4 Channel DCS HQR1 DVR-C4 again*****.

**** To Upgrade 4 Channel HQR1-C4 DVR, after reboot, you must power off & power on the 4 Channel HQR1-C4 DVR manually.***

The file, updmgr.txt, will be found under the root of CF card. The phrase of following can be found in the content of updmgr.txt.
*kernel image: image.2510.img[Sun Oct 15 03:33:24 2006] == (Mon Apr 2 03:33:24 2007)*

The date and time correspond to the version of firmware. Upgrade is successful if the date and time is the same as the data and time kernel generated.

**** Power supply has to be guaranteed normal while upgrading. DCS HQR1 DVR can not be restored if upgrade fail.***
**** Wait at least 4-5 minutes till reboot successful. LED keeps constant green if reboot successful.***

# FAQ

1) LED yellow flash
   CF card is full. Change CF.

2) LED is red
   Failure or battery is low. Use the AC power adapter or external battery.

3) Charging period
   It takes 5-8 hours to charge a fully discharged battery. The charge indicator LED will go out once fully charged.

4) File is not accessible or DCS HQR1 DVR can’t startup
   File system is wrong. This can happen after abnormal power off and long time usages of CF card. Format CF card in FAT32 file system.

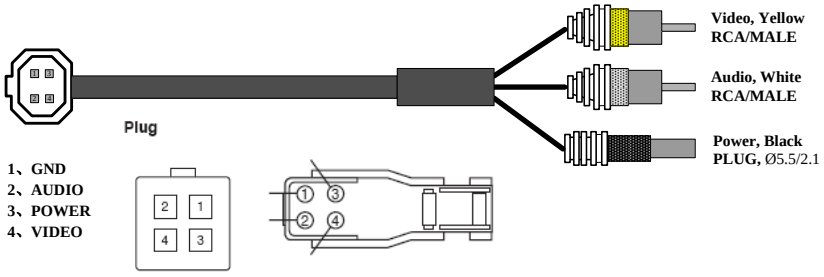
# Appendix

## IRIS Interface on Board

1- GND
2- Audio In
3- Power Output (Limited load for camera)
4- Video In

The number corresponding to the pin number of IRIS connector.

## IRIS Cable



# Revision

**10/01/06**

- Initial Release

**02/13/07**

- Add osd.img to firmware upgrade
- Release DCS HQR1 DVR Configuration File Generator V1.0.3
- Release Firmware Image upgrade file

**04/02/07**

- Add LCD support
- Add DCS HQR1 DVR status display on LCD
- Add configuration menu based on LCD
- Release DCS HQR1 DVR Configuration File Generator V1.0.4
- Release Firmware V1.0.4 Image upgrade file
- Release Official User's Manual V1.0.4

**04/28/07**

- Add more version LANC Remote Control support
- Add Auto Record on Boot function
- Add Beep Enable/Disable option
- Optimize Beacon support
- Release DCS HQR1 DVR Configuration File Generator V1.0.5
- Release Firmware V1.0.5 Image upgrade file
- Release Official User's Manual V1.0.5

**05/08/07**

- Optimize LANC Remote Control support
- Add new version IR Remote Control support
- Optimize Record on Power On function
- Add Beep/Vibration Enable/Disable option
- Add Time Stamp in two format & disable option
- Optimize Beacon support
- Optimize DCS HQR1 DVR Configure Utility GUI
- Fix some bug
- Release DCS HQR1 DVR Configure Utility V1.0.5 Final version
- Release Firmware V1.0.5 Image upgrade file Final version
- Release Official User's Manual V1.0.5.1

**06/08/07**

- Add on 4-Channel DCS HQR1 DVR support
- Optimize LANC Remote Control support

**09/24/07, Version 1.1.0**

- Improve 4-Channel DCS HQR1 DVR support
- Improve large CF card support
- Add Power-Off Timer function
- Add Cycle Record function
- Add customized LCD Display
- Add System Clock Calibrate function
- Decrease the time of starting

**10/18/07, Version 1.1.1**

- Add 1M(CIF/SIF) Bitrates Encode Option
- Add 8M Bitrates Encode Option
- Add Single recording video file Cycle Record Mode
- Add Full Disk (CF Card) Cycle Record Mode
- Add Analog Menu Output for 4 Channel DCS HQR1 DVR
- Replace OSD library for 1 Channel DCS HQR1 DVR, Support black border of OSD font
- Improve large CF card support